STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

June 1, 2021

Ms. Susan D Morris, CSP, PMP, CFPS
Assistant Manager for Environment, Safety and Health
e-copy: susan.morris@npo.doe.gov
PO Box 2009-8009 (DOE/NNSA)
Oak Ridge, TN 37831

Subject: **Draft of NPDES Permit No. TN0002968**
U.S. Department of Energy (DOE) - National Nuclear Security Administration
Oak Ridge, Anderson County, Tennessee

Dear Ms. Morris:

Enclosed please find a draft copy of the NPDES Permit No. TN0002968, which the Division of Water Resources proposes to issue. This draft copy is furnished to you solely for your review of its provisions. No wastewater discharges are authorized by this draft permit. The issuance of this permit is contingent upon your meeting all of the requirements of the Tennessee Water Quality Control Act and the Rules and Regulations of the Tennessee Water Quality, Oil and Gas Board.

Also enclosed is a copy of the public notice that announces our intent to issue this permit. The notice affords the public an opportunity to review the draft permit and, if necessary, request a public hearing on this issuance process. If you disagree with the provisions and requirements contained in the draft permit, you have thirty (30) days from the date of this correspondence to notify the division of your objections. If your objections cannot be resolved, you may appeal this permit upon issuance. This appeal should be filed in accordance with Section 69-3-110 of the Tennessee Code Annotated.

If you have questions, please contact the Knoxville Environmental Field Office at 1-888-891-TDEC; or, at this office, please contact me at (615) 532-0682 or by E-mail at *Vojin.Janjic@tn.gov*.

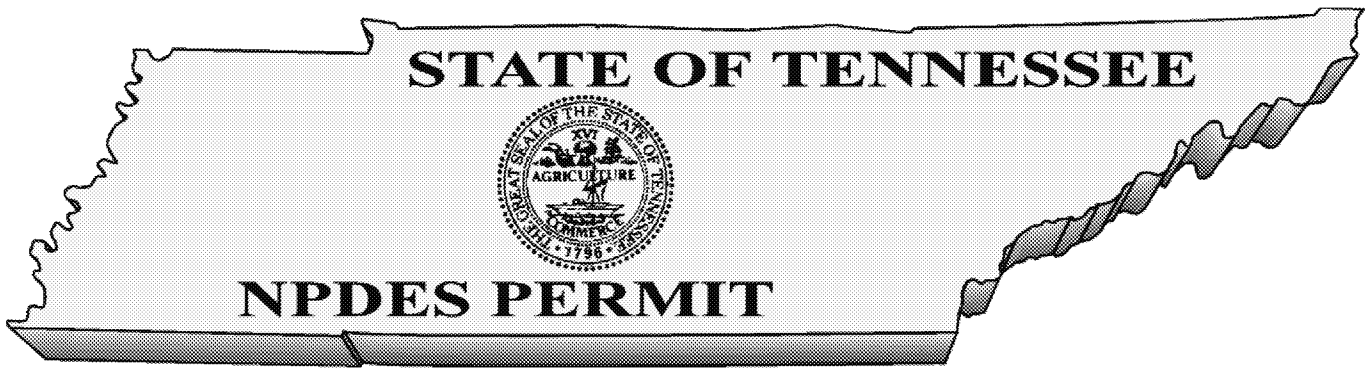
Sincerely,

Vojin Janjić
Manager, Water-Based Systems

Enclosure

cc: Permit Section File
Knoxville Environmental Field Office
Ms. Michelle Lohmann, michelle.lohmann@uscellular.com
NPDES Permit Section, EPA Region IV, r4npdespermits@epa.gov
Ms. Lisa Shipe, shipelg@gmail.com
Dr. Robert D. Hatcher, Jr., PhD, UT Distinguished Scientist, , bobmap@utk.edu
Mr. Ralph Hutchison, Coordinator, Oak Ridge Environmental Peace Alliance, orep@earthlink.net
Ms. Ellen Smith, ellen@ellensmith.org
Jan West, Director, jan.west@cns.doe.gov
Mr. Kristopher Kinder, Manager, Clean Water/NEPA, kristopher.kinder@cns.doe.gov
Ms. Dana Casey, TDEC-Environmental Manager 2, TDEC-DOR, dana.casey@tn.gov
Mr. Patrick Berge, pberge@oakridgetn.gov
Mr. Roger Bruce Petrie, URS / CH2M Oak Ridge LLC (UCOR), Roger.Petrie@ettp.doe.gov

Mr. Tony Poole,tpooleknox@outlook.com
Mr. Brian T. Henry, Portfolio Federal Project Director, Department of Energy, krystal.swearingen@orem.doe.gov
Mr. John Huotari, Oak Ridge Today, john.huotari@oakridgetoday.com
Bridget Staples, EPA Coordinator, EPA Region 4 Water Protection Division, staples.bridget@epa.gov
Ms. Karrie-Jo Robinson Shell, Environmental Engineer, US EPA Region 4, shell.karrie-jo@epa.gov
Mr. Steve Field, 1240 Donna Dr., Lenoir City, TN 37771
Mr. Mick Wiest, 103 Amanda Dr., Oak Ridge, TN 37830
Mr. Gary Beck, 4540 Chota Hills, Louisville, TN 37777
Ms. Kathryn King, kathryn.king@cns.doe.gov



No. TN0002968

Authorization to discharge under the
National Pollutant Discharge Elimination System (NPDES)

Issued By

Tennessee Department of Environment and Conservation
Division of Water Resources
321 Rosa L. Parks Avenue
Nashville, Tennessee 37243

Under authority of the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.) and the delegation of authority from the United States Environmental Protection Agency under the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251, et seq.)

Discharger:	**United States Department of Energy National Nuclear Security Administration (Y-12 National Security Complex)**
is authorized to discharge:	**process and other wastewaters which have been accepted for treatment via waste acceptance procedures, cooling tower blowdown, cooling waters, condensate, sump waters, storm water runoff and ground water from Internal Monitoring Points 501, 502, 512, 551 and Outfalls 200,C13, and MTF. Additional discharges are allowed from the following non-process wastewater outfalls: 002, 003, 004, 006, 007, 014, 016, 019, 020, 021, 033, 034, 041, 042, 044, 045, 046, 047, 048, 054, 055, 057, 058, 062, 063, 064, 067, 071, 083, 086, 087, 088, 099, 102, 109, 110, 113, 114, 125, 126, 134, 135 and S30. Instream Monitoring Points authorized in this permit are the following: EFP (Station 17), C03, C05, C08, C11, S06, S17, S18, S19, S24**
from the facility:	**Y-12 National Security Complex in Oak Ridge, Anderson and Roane Counties, Tennessee**
to receiving waters named:	**East Fork Poplar Creek, Bear Creek, McCoy Branch and unnamed tributaries to Clinch River**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on:

This permit shall expire on:

Issuance date:

Draft

Jennifer Dodd
Director

TABLE OF CONTENTS

Page

Contents

PART I

PART II

PART III

PART IV

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

United States Department of Energy National Nuclear Security Administration (Y-12 National Security Complex) is authorized to discharge cooling waters, process wastewaters, contaminated ground water, and stormwater runoff to East Fork Poplar Creek, Bear Creek, McCoy Branch and unnamed tributaries to Clinch River.

Outfall/IMP	Longitude	Latitude	CONVEYANCE	DISCHARGE RECEIVING WATERS	DESCRIPTION
Wastewater Treatment Facilities (Internal Monitoring Points)					
501	35.9838	-84.2597	North-South Pipes to Outfall 200	East Fork Poplar Creek	Central Pollution Control Facility (CPCF)
502	35.9764	-84.2755	North-South Pipes to Outfall 200	East Fork Poplar Creek	West End Treatment Facility (WETF)
512	35.9847	-84.2553	North-South Pipes to Outfall 200	East Fork Poplar Creek	Groundwater Treatment Facility (GWTF)
551	35.9956	-84.2397	North-South Pipes to Outfall 200	East Fork Poplar Creek	Central Mercury Treatment System (CMTS)
Process Wastewater Outfalls					
200/C13	35.9856	-84.2528		East Fork Poplar Creek	Proposed Mercury Treatment Facility
MTF	35.9883	-84.2451		East Fork Poplar Creek	Proposed Mercury Treatment Facility
Instream Monitoring Points					
EFP (Station 17)	35.9872	-84.2492		East Fork Poplar Creek	Instream Station 17
S06	35.9747	-84.2767		Bear Creek	In-stream Monitoring Station - primary end point of Y-12 flow toward west
S17	35.9797	-84.2311		Clinch River tributaries	Stormwater & spring discharge
S18	35.9797	-84.2311		Clinch River tributaries	Tributary draining landfill discharge
S19	35.9789	-84.2372		Clinch River tributaries	In-stream Monitoring Station - outflow from Rogers Quarry
S24	35.9731	-84.2703		Bear Creek	In-stream Monitoring Station
C03	35.9854	-84.2537		East Fork Poplar Creek	In-stream Monitor
C05	35.9854	-84.2537		East Fork Poplar Creek	In-stream Monitor
C08	35.9853	-84.2536		East Fork Poplar Creek	In-stream Monitor
C11	35.9853	-84.2536		East Fork Poplar Creek	In-stream Monitor

NON-PROCESS WASTEWATER AND STORMWATER OUTFALL LOCATIONS				DESCRIPTION
Outfall	Longitude	Latitude	RECEIVING WATERS	
2	35.9956	-84.2397	East Fork Poplar Creek	Stormwater & spring flow
3	35.9939	-84.2392	East Fork Poplar Creek	Stormwater
4	35.9922	-84.2381	East Fork Poplar Creek	Stormwater & process water
6	35.9933	-84.2369	East Fork Poplar Creek	Stormwater
7	35.9917	-84.2397	East Fork Poplar Creek	Stormwater & East End Volatile Organic Plume Treatment Unit (CERCLA)
14	35.9897	-84.2431	East Fork Poplar Creek	Noncontact cooling water, steam condensate, & stormwater
16	35.9892	-84.2431	East Fork Poplar Creek	Stormwater
19	35.9883	-84.2453	East Fork Poplar Creek	Stormwater
20	35.9886	-84.2458	East Fork Poplar Creek	Cooling tower water, steam condensate, cooling water & stormwater
21	35.9881	-84.2467	East Fork Poplar Creek	Steam condensate, cooling tower blowdown, & stormwater
S30	35.9697	-84.2683	Bear Creek	Stormwater
33	35.9875	-84.2500	East Fork Poplar Creek	Stormwater
34	35.9878	-84.2475	East Fork Poplar Creek	Noncontact cooling water, steam condensate, groundwater, & stormwater
41	35.9878	-84.2478	East Fork Poplar Creek	Stormwater
42	35.9875	-84.2478	East Fork Poplar Creek	Noncontact cooling water & stormwater
44	35.9875	-84.2481	East Fork Poplar Creek	Stormwater
45	35.9872	-84.2483	East Fork Poplar Creek	Stormwater
46	35.9875	-84.2483	East Fork Poplar Creek	Stormwater
47	35.9875	-84.2483	East Fork Poplar Creek	Noncontact cooling water, steam condensate, & stormwater
48	35.9875	-84.2489	East Fork Poplar Creek	Noncontact cooling water, steam condensate, & stormwater
54	35.9872	-84.2492	East Fork Poplar Creek	Stormwater
55	35.9869	-84.2492	East Fork Poplar Creek	Once-through cooling water & stormwater
57	35.9872	-84.2494	East Fork Poplar Creek	Stormwater
58	35.9869	-84.2386	East Fork Poplar Creek	Stormwater
62	35.9869	-84.2361	East Fork Poplar Creek	Stormwater
63	35.9867	-84.2500	East Fork Poplar Creek	Once-through noncontact cooling water, groundwater, & stormwater
64	35.9869	-84.2336	East Fork Poplar Creek	Stormwater
67	35.9867	-84.2506	East Fork Poplar Creek	Once-through cooling water & stormwater
71	35.9867	-84.2508	East Fork Poplar Creek	Noncontact cooling water, groundwater, demineralized water, & stormwater
83	35.9861	-84.2514	East Fork Poplar Creek	Once-through noncontact water, steam condensate, groundwater, & stormwater
86	35.9839	-84.2597	East Fork Poplar Creek	Stormwater
87	35.9764	-84.2756	East Fork Poplar Creek	Cooling tower blowdown & stormwater
88	35.9822	-84.2628	East Fork Poplar Creek	Once-through noncontact cooling water & stormwater
99	35.9872	-84.2611	East Fork Poplar Creek	Once-through noncontact cooling water & stormwater
102	35.9872	-84.2492	East Fork Poplar Creek	Steam condensate, once-through noncontact cooling water, & stormwater
109	35.9869	-84.2492	East Fork Poplar Creek	Steam condensate, cooling water, & stormwater
110	35.9842	-84.2558	East Fork Poplar Creek	Stormwater
113	35.9964	-84.4231	East Fork Poplar Creek	Stormwater
114	35.9956	-84.2397	East Fork Poplar Creek	Once-through noncontact cooling water & stormwater
125	35.9847	-84.2550	East Fork Poplar Creek	Once-through noncontact cooling water & stormwater
126	35.9858	-84.2522	East Fork Poplar Creek	Stormwater
134	35.9858	-84.2522	East Fork Poplar Creek	Stormwater
135	35.9858	-84.2525	East Fork Poplar Creek	Cooling water, boiler blowdown, & stormwater

The monitoring requirements and numeric effluent limitations for this permit are specified in the following tables.

Internal Monitoring Points that Discharge through Outfalls 200 and C13

INTERNAL MONITORING POINT 501
Central Pollution Control Facility

Description : Number : 501, Monitoring : Internal Monitoring Point, Season : All Year							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH*	>=	6.0	SU	Grab	Once Per Batch	Minimum
00400	pH*	<=	9.0	SU	Grab	Once Per Batch	Maximum
00530	Total Suspended Solids (TSS)	<=	40	mg/L	Composite	Once Per Batch	Daily Maximum
00530	Total Suspended Solids (TSS)	<=	31	mg/L	Composite	Once Per Batch	Monthly Average
00556	Oil & Grease	<=	10	mg/L	Grab	Once Per Batch	Monthly Average
00556	Oil & Grease	<=	15	mg/L	Grab	Once Per Batch	Daily Maximum
00720	Cyanide, total (as CN)	<=	1.2	mg/L	Grab	Once Per Batch	Daily Maximum
00720	Cyanide, total (as CN)	<=	.65	mg/L	Grab	Once Per Batch	Monthly Average
00720	Cyanide, total (as CN)	<=	.72	lb/d	Grab	Once Per Batch	Daily Maximum
00720	Cyanide, total (as CN)	<=	.4	lb/d	Grab	Once Per Batch	Monthly Average
01012	Beryllium, total (as Be)	Report	-	mg/L	Composite	Once Per Batch	Daily Maximum
01012	Beryllium, total (as Be)	Report	-	mg/L	Composite	Once Per Batch	Monthly Average
01022	Boron, total (as B)	Report	-	mg/L	Composite	Once Per Batch	Daily Maximum
01022	Boron, total (as B)	Report	-	mg/L	Composite	Once Per Batch	Monthly Average
01027	Cadmium, total (as Cd)	<=	.15	mg/L	Composite	Once Per Batch	Daily Maximum
01027	Cadmium, total (as Cd)	<=	.16	lb/d	Composite	Once Per Batch	Monthly Average
01027	Cadmium, total (as Cd)	<=	.07	mg/L	Composite	Once Per Batch	Monthly Average
01027	Cadmium, total (as Cd)	<=	.4	lb/d	Composite	Once Per Batch	Daily Maximum
01034	Chromium, total (as Cr)	<=	1	lb/d	Composite	Once Per Batch	Monthly Average
01034	Chromium, total (as Cr)	<=	1.7	lb/d	Composite	Once Per Batch	Daily Maximum
01034	Chromium, total (as Cr)	<=	.5	mg/L	Composite	Once Per Batch	Monthly Average
01034	Chromium, total (as Cr)	<=	1	mg/L	Composite	Once Per Batch	Daily Maximum
01042	Copper, total (as Cu)	<=	1.2	lb/d	Composite	Once Per Batch	Monthly Average
01042	Copper, total (as Cu)	<=	1	mg/L	Composite	Once Per Batch	Daily Maximum
01042	Copper, total (as Cu)	<=	.5	mg/L	Composite	Once Per Batch	Monthly Average
01042	Copper, total (as Cu)	<=	2	lb/d	Composite	Once Per Batch	Daily Maximum

01051	Lead, total (as Pb)	<=	.1	mg/L	Composite	Once Per Batch	Monthly Average
01051	Lead, total (as Pb)	<=	.26	lb/d	Composite	Once Per Batch	Monthly Average
01051	Lead, total (as Pb)	<=	.4	lb/d	Composite	Once Per Batch	Daily Maximum
01051	Lead, total (as Pb)	<=	.2	mg/L	Composite	Once Per Batch	Daily Maximum
01067	Nickel, total (as Ni)	<=	3.98	mg/L	Composite	Once Per Batch	Daily Maximum
01067	Nickel, total (as Ni)	<=	2.38	mg/L	Composite	Once Per Batch	Monthly Average
01067	Nickel, total (as Ni)	<=	1.4	lb/d	Composite	Once Per Batch	Monthly Average
01067	Nickel, total (as Ni)	<=	2.4	lb/d	Composite	Once Per Batch	Daily Maximum
01077	Silver, total (as Ag)	<=	.14	lb/d	Composite	Once Per Batch	Monthly Average
01077	Silver, total (as Ag)	<=	.05	mg/L	Composite	Once Per Batch	Daily Maximum
01077	Silver, total (as Ag)	<=	.05	mg/L	Composite	Once Per Batch	Monthly Average
01077	Silver, total (as Ag)	<=	.26	lb/d	Composite	Once Per Batch	Daily Maximum
01092	Zinc, total (as Zn)	<=	.9	lb/d	Composite	Once Per Batch	Monthly Average
01092	Zinc, total (as Zn)	<=	1.6	lb/d	Composite	Once Per Batch	Daily Maximum
01092	Zinc, total (as Zn)	<=	1.48	mg/L	Composite	Once Per Batch	Monthly Average
01092	Zinc, total (as Zn)	<=	2	mg/L	Composite	Once Per Batch	Daily Maximum
01132	Lithium, total (as Li)	Report	-	mg/L	Composite	Once Per Batch	Monthly Average
01132	Lithium, total (as Li)	Report	-	mg/L	Composite	Once Per Batch	Daily Maximum
22708	Uranium, natural, total	Report	-	mg/L	Composite	Once Per Batch	Daily Maximum
22708	Uranium, natural, total	Report	-	mg/L	Composite	Once Per Batch	Monthly Average
39516	Polychlorinated biphenyls (PCBs)	<=	.001	mg/L	Composite	See Permit	Daily Maximum
47021	Methylene blue active substances	Report	-	mg/L	Composite	See Permit	Daily Maximum
47021	Methylene blue active substances	Report	-	mg/L	Composite	See Permit	Monthly Average
50050	Flow	Report	-	Mgal/d	Estimate	Once Per Batch	Daily Maximum
50050	Flow	Report	-	Mgal/d	Estimate	Once Per Batch	Monthly Average
70295	Total Dissolved Solids (TDS)	Report	-	mg/L	Composite	Once Per Batch	Daily Maximum
70295	Total Dissolved Solids (TDS)	Report	-	mg/L	Composite	Once Per Batch	Monthly Average
70505	Phosphate, total, color method (as P)	Report	-	mg/L	Composite	Once Per Batch	Daily Maximum
70505	Phosphate, total, color method (as P)	Report	-	mg/L	Composite	Once Per Batch	Monthly Average
71900	Mercury, total (as Hg)	Report	-	ng/L	Composite	Once Per Batch	Daily Maximum
71900	Mercury, total (as Hg)	Report	-	ng/L	Composite	Once Per Batch	Monthly Average
78224	Total toxic organics (TTO) (40 CFR433)	<=	2.13	mg/L	Grab	See Permit	Daily Maximum

* pH analyses shall be performed within fifteen (15) minutes of sample collection.

INTERNAL MONITORING POINT 502 (IMP)
West End Treatment Facility

Description : Number : 502, Monitoring : Internal Monitoring Point, Season : All Year							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH*	>=	6.0	SU	Grab	Once Per Batch	Minimum
00400	pH*	<=	9.0	SU	Grab	Once Per Batch	Maximum
00530	Total Suspended Solids (TSS)	<=	31	lb/d	Grab	Once Per Batch	Daily Maximum
00530	Total Suspended Solids (TSS)	<=	40	mg/L	Grab	Once Per Batch	Daily Maximum
00556	Oil & Grease	<=	15	mg/L	Grab	Once Per Batch	Daily Maximum
00630	Nitrite plus Nitrate (as N)	<=	100	mg/L	Grab	Once Per Batch	Daily Maximum
00720	Cyanide, total (as CN)	<=	.72	lb/d	Grab	Once Per Batch	Daily Maximum
00720	Cyanide, total (as CN)	<=	1.2	mg/L	Grab	Once Per Batch	Daily Maximum
01027	Cadmium, total (as Cd)	<=	.4	lb/d	Grab	Once Per Batch	Daily Maximum
01027	Cadmium, total (as Cd)	<=	.15	mg/L	Grab	Once Per Batch	Daily Maximum
01034	Chromium, total (as Cr)	<=	1	mg/L	Grab	Once Per Batch	Daily Maximum
01034	Chromium, total (as Cr)	<=	1.7	lb/d	Grab	Once Per Batch	Daily Maximum
01042	Copper, total (as Cu)	<=	2	lb/d	Grab	Once Per Batch	Daily Maximum
01042	Copper, total (as Cu)	<=	1	mg/L	Grab	Once Per Batch	Daily Maximum
01051	Lead, total (as Pb)	<=	.4	lb/d	Grab	Once Per Batch	Daily Maximum
01051	Lead, total (as Pb)	<=	.2	mg/L	Grab	Once Per Batch	Daily Maximum
01067	Nickel, total (as Ni)	<=	3.98	mg/L	Grab	Once Per Batch	Daily Maximum
01067	Nickel, total (as Ni)	<=	2.4	lb/d	Grab	Once Per Batch	Daily Maximum
01077	Silver, total (as Ag)	<=	.26	lb/d	Grab	Once Per Batch	Daily Maximum
01077	Silver, total (as Ag)	<=	.05	mg/L	Grab	Once Per Batch	Daily Maximum
01092	Zinc, total (as Zn)	<=	1.48	mg/L	Grab	Once Per Batch	Daily Maximum
01092	Zinc, total (as Zn)	<=	.9	lb/d	Grab	Once Per Batch	Daily Maximum
01132	Lithium, total (as Li)	Report	-	mg/L	Grab	Once Per Batch	Daily Maximum
01147	Selenium, total (as Se)	Report	-	mg/L	Grab	Once Per Batch	Daily Maximum
22708	Uranium, natural, total	Report	-	mg/L	Grab	Once Per Batch	Daily Maximum
39516	Polychlorinated biphenyls (PCBs)	<=	.001	mg/L	Grab	Once Per Batch	Daily Maximum
50050	Flow	Report	-	Mgal/d	Instantaneous	Once Per Batch	Daily Maximum
70295	Total Dissolved Solids (TDS)	Report	-	mg/L	Grab	Once Per Batch	Daily Maximum
71900	Mercury, total (as Hg)	Report	-	ng/L	Grab	Once Per Batch	Daily Maximum
78224	Total toxic organics (TTO) (40 CFR433)	<=	2.13	mg/L	Grab	Once Per Batch	Daily Maximum

* pH analyses shall be performed within fifteen (15) minutes of sample collection.

INTERNAL MONITORING POINT 512
Groundwater Treatment Facility

Description : Number : 512, Monitoring : Internal Monitoring Point, Season : All Year							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH*	>=	6.0	SU	Instantaneous	Monthly	Minimum
00400	pH*	<=	9.0	SU	Instantaneous	Monthly	Maximum
01042	Copper, total (as Cu)	Report	-	mg/L	Composite	Monthly	Daily Maximum
01051	Lead, total (as Pb)	Report	-	mg/L	Composite	Monthly	Daily Maximum
39516	Polychlorinated biphenyls (PCBs)	<=	.001	mg/L	Composite	Annual	Daily Maximum
50050	Flow	Report	-	Mgal/d	Recorder	Continuous	Daily Maximum
50050	Flow	Report	-	Mgal/d	Recorder	Continuous	Monthly Average

* pH analyses shall be performed within fifteen (15) minutes of sample collection.

INTERNAL MONITORING POINT 551
Central Mercury Treatment System**

Description : Number : 551, Monitoring : Internal Monitoring Point, Season : All Year							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH*	>=	6.0	SU	Grab	Weekly	Minimum
00400	pH*	<=	9.0	SU	Grab	Weekly	Maximum
50050	Flow	Report	-	Mgal/d	Estimate	Weekly	Monthly Average
50050	Flow	Report	-	Mgal/d	Estimate	Weekly	Daily Maximum
71900	Mercury, total (as Hg)	<=	2000	ng/L	Composite	Weekly	Monthly Average
71900	Mercury, total (as Hg)	<=	4000	ng/L	Composite	Weekly	Daily Maximum

* pH analyses shall be performed within fifteen (15) minutes of sample collection.

** This permit contains effluent limits for discharges from treatment units developed to control legacy mercury. These limits are retained from the previous permit based on the settlement from the permittee's appeal. Implementation of the Consent Order has resulted in subsequent NPDES permits not including numeric permit limits for mercury at Outfall 51 and the adjacent effluent from Big Spring Water Treatment Plant.

OUTFALL 200 and OUTFALL MTF** – DRY WEATHER

Description : External Outfall, Number : 200, Monitoring : Effluent Gross, Season : All Year							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00010	Temperature, water deg. C	<=	30.5	deg C	Grab	Monthly	Daily Maximum
00400	pH *	>=	6.0	SU	Grab	Monthly	Minimum
00400	pH *	<=	9.0	SU	Grab	Monthly	Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Composite	Monthly	Monthly Average
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Composite	Monthly	Daily Maximum
00556	Oil & Grease	<=	10	mg/L	Grab	Monthly	Monthly Average
00556	Oil & Grease	<=	15	mg/L	Grab	Monthly	Daily Maximum
00625	Nitrogen, Kjeldahl, Total (TKN as N)	Report	-	mg/L	Composite	Monthly	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Composite	Monthly	Monthly Average
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Composite	Monthly	Daily Maximum
00665	Phosphorus, total (as P)	Report	-	mg/L	Composite	Monthly	Daily Maximum
00720	Cyanide, total (as CN)	<=	.0052	mg/L	Grab	Monthly	Monthly Average
00720	Cyanide, total (as CN)	<=	.022	mg/L	Grab	Monthly	Daily Maximum
01012	Beryllium, total (as Be)	Report	-	mg/L	Composite	Monthly	Monthly Average
01012	Beryllium, total (as Be)	Report	-	mg/L	Composite	Monthly	Daily Maximum
01022	Boron, total (as B)	Report	-	mg/L	Composite	Monthly	Monthly Average
01022	Boron, total (as B)	Report	-	mg/L	Composite	Monthly	Daily Maximum
01027	Cadmium, total (as Cd)	<=	.0043	mg/L	Composite	Monthly	Monthly Average
01027	Cadmium, total (as Cd)	<=	.0118	mg/L	Composite	Monthly	Daily Maximum
01032	Chromium, hexavalent (as Cr)	Report	-	mg/L	Composite	Monthly	Monthly Average
01032	Chromium, hexavalent (as Cr)	<=	.016	mg/L	Composite	Monthly	Daily Maximum
01033	Chromium, trivalent (as Cr)	Report	-	mg/L	Composite	Monthly	Monthly Average
01033	Chromium, trivalent (as Cr)	Report	-	mg/L	Composite	Monthly	Daily Maximum
01034	Chromium, total (as Cr)	Report	-	mg/L	Composite	Monthly	Monthly Average
01034	Chromium, total (as Cr)	Report	-	mg/L	Composite	Monthly	Daily Maximum
01042	Copper, total (as Cu)	Report	-	mg/L	Composite	Monthly	Monthly Average
01042	Copper, total (as Cu)	Report	-	mg/L	Composite	Monthly	Daily Maximum
01051	Lead, total (as Pb)	Report	-	mg/L	Composite	Monthly	Monthly Average
01051	Lead, total (as Pb)	Report	-	mg/L	Composite	Monthly	Daily Maximum
01067	Nickel, total (as Ni)	Report	-	mg/L	Composite	Monthly	Monthly Average
01067	Nickel, total (as Ni)	Report	-	mg/L	Composite	Monthly	Daily Maximum
01077	Silver, total (as Ag)	Report	-	mg/L	Composite	Monthly	Monthly Average
01077	Silver, total (as Ag)	<=	.0081	mg/L	Composite	Monthly	Daily Maximum

01092	Zinc, total (as Zn)	Report	-	mg/L	Composite	Monthly	Monthly Average
01092	Zinc, total (as Zn)	Report	-	mg/L	Composite	Monthly	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Composite	Monthly	Monthly Average
01105	Aluminum, total (as Al)	Report	-	mg/L	Composite	Monthly	Daily Maximum
01132	Lithium, total (as Li)	Report	-	mg/L	Composite	Monthly	Monthly Average
01132	Lithium, total (as Li)	Report	-	mg/L	Composite	Monthly	Daily Maximum
01147	Selenium, total (as Se)	<=	.0031	mg/L	Composite	Monthly	Monthly Average
01147	Selenium, total (as Se)	<=	.02	mg/L	Composite	Monthly	Daily Maximum
22708	Uranium, natural, total	Report	-	mg/L	Composite	Monthly	Monthly Average
22708	Uranium, natural, total	Report	-	mg/L	Composite	Monthly	Daily Maximum
39516	Polychlorinated biphenyls (PCBs)	<=	.00000064	mg/L	Composite	1/Permit Cycle	Daily Maximum
47021	Methylene blue active substances	Report	-	mg/L	Composite	Monthly	Monthly Average
47021	Methylene blue active substances	Report	-	mg/L	Composite	Monthly	Daily Maximum
50050	Flow	Report	-	MGD	Calculated	Monthly	Monthly Average
50050	Flow	Report	-	MGD	Calculated	Monthly	Daily Maximum
50060	Chlorine, total residual (TRC)	<=	.011	mg/L	Grab	Monthly	Monthly Average
50060	Chlorine, total residual (TRC)	<=	.019	mg/L	Grab	Monthly	Daily Maximum
70295	Total Dissolved Solids (TDS)	Report	-	mg/L	Composite	Monthly	Monthly Average
70295	Total Dissolved Solids (TDS)	Report	-	mg/L	Composite	Monthly	Daily Maximum
70505	Phosphate, total, color method (as P)	Report	-	mg/L	Composite	Monthly	Monthly Average
70505	Phosphate, total, color method (as P)	Report	-	mg/L	Composite	Monthly	Daily Maximum
71900	Mercury, total (as Hg)	Report	-	ng/L	Composite	Monthly	Monthly Average
71900	Mercury, total (as Hg)	Report	51	ng/L	Composite	Monthly	Daily Maximum
71900	Mercury, total (as Hg)	Report	-	kg/yr	Composite	Annual	Annual Total
77885	Methanol, total	Report	-	mg/L	Grab	Monthly	Daily Maximum
78224	Total toxic organics (TTO) (40 CFR433)	Report	-	mg/L	Composite	Monthly	Daily Maximum
TRP3B	IC25 Static Renewal 7 Day Chronic Ceriodaphnia	>	100	%	Composite	Quarterly	Minimum
TRP6C	IC25 Static Renewal 7 Day Chronic Pimephales promelas	>	100	%	Composite	Quarterly	Minimum

Description : External Outfall, Number : 200, Monitoring : Effluent Gross, Season : Summer

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00610	Nitrogen, Ammonia total (as N) Summer	<=	1.01	mg/L	Grab	Monthly	Monthly Average
00610	Nitrogen, Ammonia total (as N) Summer	<=	2.02	mg/L	Grab	Monthly	Daily Maximum

Description : External Outfall, Number : 200, Monitoring : Effluent Gross, Season : Winter

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring	Statistical Base

						Frequency	
00610	Nitrogen, Ammonia total (as N) Winter	<=	1.92	mg/L	Grab	Monthly	Monthly Average
00610	Nitrogen, Ammonia total (as N) Winter	<=	3.84	mg/L	Grab	Monthly	Daily Maximum

* pH and TRC analyses shall be performed within fifteen (15) minutes of sample collection.
** Current outfall location prior to completion of mercury treatment facility and diversion will only include wastewater from Outfall 200. Monitoring and effluent limitations apply only to Outfall 200 until the Mercury Treatment Facility is completed and the diversion begins. After diversion, Outfall MTF will include wastewater from Outfalls 134, 135 and 200. At that time, all monitoring requirements and effluent limitations applicable to Outfall 200 will cease, and will instead be applied to Outfall MTF. Compliance with the numeric effluent limitation for mercury shall be achieved in accordance with the Schedule of Compliance established in Part I.F. of this permit.

OUTFALL C13
Headworks Design Capacity Excess Flow

Description : External Outfall, Number :C13, Monitoring : Effluent Gross, Season : All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
00010	Temperature, water deg. C	<=	30.5	deg C	Grab	Once per discharge	Daily Maximum
00400	pH*	>=	6.0	SU	Grab	Once per discharge	Minimum
00400	pH*	<=	9.0	SU	Grab	Once per discharge	Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Composite	Once per discharge	Monthly Average
00556	Oil & Grease	<=	10	mg/L	Grab	Once per discharge	Monthly Average
00556	Oil & Grease	<=	15	mg/L	Grab	Once per discharge	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Summer)**	<=	2.02	mg/L	Grab	Once per discharge	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Summer)**	<=	1.01	mg/L	Grab	Once per discharge	Monthly Average
00610	Nitrogen, Ammonia total (as N) (Winter)**	<=	3.84	mg/L	Grab	Once per discharge	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Winter)**	<=	1.92	mg/L	Grab	Once per discharge	Monthly Average
00625	Nitrogen, Kjeldahl, Total (TKN as N)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Composite	Once per discharge	Monthly Average
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
00665	Phosphorus, total (as P)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
00720	Cyanide, total (as CN)	<=	0.022	mg/L	Grab	Once per	Daily Maximum

						discharge	
00720	Cyanide, total (as CN)	<=	0.0052	mg/L	Grab	Once per discharge	Monthly Average
01012	Beryllium, total (as Be)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
01012	Beryllium, total (as Be)	Report	-	mg/L	Composite	Once per discharge	Monthly Average
01022	Boron, total (as B)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
01022	Boron, total (as B)	Report	-	mg/L	Composite	Once per discharge	Monthly Average
01027	Cadmium, total (as Cd)	<=	.0118	mg/L	Composite	Once per discharge	Daily Maximum
01027	Cadmium, total (as Cd)	<=	.0043	mg/L	Composite	Once per discharge	Monthly Average
01032	Chromium, hexavalent (as Cr)	Report	-	mg/L	Composite	Once per discharge	Monthly Average
01032	Chromium, hexavalent (as Cr)	<=	.016	mg/L	Composite	Once per discharge	Daily Maximum
01033	Chromium, trivalent (as Cr)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
01033	Chromium, trivalent (as Cr)	Report	-	mg/L	Composite	Once per discharge	Monthly Average
01034	Chromium, total (as Cr)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
01034	Chromium, total (as Cr)	Report	-	mg/L	Composite	Once per discharge	Monthly Average
01042	Copper, total (as Cu)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
01042	Copper, total (as Cu)	Report	-	mg/L	Composite	Once per discharge	Monthly Average
01051	Lead, total (as Pb)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
01051	Lead, total (as Pb)	Report	-	mg/L	Composite	Once per discharge	Monthly Average
01067	Nickel, total (as Ni)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
01067	Nickel, total (as Ni)	Report	-	mg/L	Composite	Once per discharge	Monthly Average
01077	Silver, total (as Ag)	<=	0.0081	mg/L	Composite	Once per discharge	Daily Maximum
01077	Silver, total (as Ag)	Report	-	mg/L	Composite	Once per discharge	Monthly Average
01092	Zinc, total (as Zn)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
01092	Zinc, total (as Zn)	Report	-	mg/L	Composite	Once per discharge	Monthly Average
01105	Aluminum, total (as Al)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Composite	Once per	Monthly Average

						discharge	
01132	Lithium, total (as Li)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
01132	Lithium, total (as Li)	Report	-	mg/L	Composite	Once per discharge	Monthly Average
01147	Selenium, total (as Se)	<=	0.020	mg/L	Composite	Once per discharge	Daily Maximum
01147	Selenium, total (as Se)	<=	0.0031	mg/L	Composite	Once per discharge	Monthly Average
22708	Uranium, total	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
22708	Uranium, total	Report	-	mg/L	Composite	Once per discharge	Monthly Average
47021	Methylene blue active substances	Report	-	mg/L	Composite	Once per discharge	Monthly Average
47021	Methylene blue active substances	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
50050	Flow	Report	-	MGD	Calculated	Once per discharge	Monthly Average
50050	Flow	Report	-	MGD	Calculated	Once per discharge	Daily Maximum
50060	Chlorine, total residual (TRC)	<=	.019	mg/L	Grab	Once per discharge	Daily Maximum
50060	Chlorine, total residual (TRC)	<=	.011	mg/L	Grab	Once per discharge	Monthly Average
51484	Number of Events	Report	-	occur/mo	Occurrences	Total	Value
70295	Total Dissolved Solids (TDS)	Report	-	mg/L	Composite	Once per discharge	Monthly Average
70295	Total Dissolved Solids (TDS)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
70505	Phosphate, total, color method (as P)	Report	-	mg/L	Composite	Once per discharge	Monthly Average
70505	Phosphate, total, color method (as P)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
71900	Mercury, total (as Hg)	Report	-	ng/L	Composite	Once per discharge	Monthly Average
71900	Mercury, total (as Hg)	Report	-	ng/L	Composite	Once per discharge	Daily Maximum
78224	Total toxic organics (TTO)	Report	-	mg/L	Composite	Once per discharge	Daily Maximum
77885	Methanol, total	Report	-	mg/L	Grab	Once per discharge	Daily Maximum

* Monitoring requirements and effluent limitations for OutfallC13 apply after the MTF is online and the diversion of water from Outfall 200 begins.
** pH and TRC analyses shall be performed within fifteen (15) minutes of sample collection.
*** Discharges from the diversion structure shall be quantified by sampling at Instream Monitoring Point C11

Non-Process Wastewater Outfalls Dry Weather Sampling

OUTFALLS 014, 020, 021, 034, 042, 047, 048, 055, 063, 067, 071, 083, 087, 088, 099, 102, 109, 114, 125, 135

Monitoring : Effluent Gross, Season : All Year							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00010	Temperature, water deg. C	<=	30.5	deg C	Grab	Semi-annual	Daily Maximum
00400	pH*	>=	6.0	SU	Grab	Semi-annual	Minimum
00400	pH*	<=	9.0	SU	Grab	Semi-annual	Maximum
00610	Nitrogen, Ammonia total (as N)**(Summer)	<=	2.02	mg/L	Grab	Semi-annual	Daily Maximum
00610	Nitrogen, Ammonia total (as N)**(Summer)	<=	1.01	mg/L	Grab	Semi-annual	Monthly Average
00610	Nitrogen, Ammonia total (as N) (Winter)**	<=	3.84	mg/L	Grab	Semi-annual	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Winter)**	<=	1.92	mg/L	Grab	Semi-annual	Monthly Average
50050	Flow	Report	-	MGD	Estimate	Semi-annual	Monthly Average
50050	Flow	Report	-	MGD	Estimate	Semi-annual	Daily Maximum
50060	Chlorine, total residual (TRC)*	<=	.019	mg/L	Grab	Semi-annual	Daily Maximum

* pH and TRC analyses shall be performed within fifteen (15) minutes of sample collection.
** Outfalls that utilize ammonia bisulfite will be required to sample for ammonia on a monthly basis. The ammonia limit is based on the aquatic toxicity. Outfalls that do not utilize ammonia bisulfite will not require the monitoring for ammonia.
*** After the mercury treatment facility is complete, the wastewater from Outfall 135 will be sent through the treatment facility and out of Outfall 200.

Storm water Monitoring (Wet Weather Monitoring)

STORMWATER OUTFALLS
002, 003, 004, 006, 007, 019, 021, 033, 041, 044, 045, 046, 054, 057, 058, 062, 064, 086, 109, 110, 113, 114, 125, 126, 134

Monitoring : Effluent Gross, Season : All Year							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH*	Report	-	SU	Grab	Annual	Minimum
00400	pH*	Report	-	SU	Grab	Annual	Maximum
50050	Flow	Report	-	Mgal/d	Estimate	Annual	Daily Maximum

* pH analyses shall be performed within fifteen (15) minutes of sample collection.
** Sampling results for these outfalls will be compared to the applicable stormwater benchmarks in Part IV.K. The SWPPP shall be reviewed at least annually to access ways that the wet weather pollutant loading can be reduced through good housekeeping practices.

STORMWATER OUTFALLS 014, 016, 048, 067, 102, 135

Effluent Gross, Season : All Year							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH*	Report	-	SU	Grab	Annual	Minimum
00400	pH*	Report	-	SU	Grab	Annual	Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Annual	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Grab	Annual	Daily Maximum
01045	Iron, total (as Fe)	Report	-	mg/L	Grab	Annual	Daily Maximum
01092	Zinc, total (as Zn)	Report	-	mg/L	Grab	Annual	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Annual	Daily Maximum
22708	Uranium, natural, total	Report	-	mg/L	Grab	Annual	Daily Maximum
50050	Flow	Report	-	Mgal/d	Estimate	Annual	Daily Maximum
71900	Mercury, total (as Hg)	Report	-	ng/L	Grab	Annual	Daily Maximum
81017	Chemical Oxygen Demand (COD)	Report	-	mg/L	Grab	Annual	Daily Maximum

* pH analyses shall be performed within fifteen (15) minutes of sample collection.
** Sampling results for these outfalls will be compared to the applicable stormwater benchmarks in Part IV.K. The SWPPP shall be reviewed at least annually to access ways that the wet weather pollutant loading can be reduced through good housekeeping practices.

A number of parameters in tables below have a designation "Alert." For the purpose of this permit, "Alert" means that sampling results for these parameters shall be compared to the applicable stormwater benchmarks in Part IV.K. In other words, numbers in the VALUE column are not to be considered effluent limits, but action levels. Also, see Alert Value definition for more information.

OUTFALL 200 - WET WEATHER FLOW

Code	Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
00010	Temperature, water deg. C (Alert)	<=	30.5	deg C	Grab	Annual	Daily Maximum
00400	pH* (Alert)	>=	6.0	SU	Grab	Annual	Minimum
00400	pH* (Alert)	<=	9.0	SU	Grab	Annual	Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Annual	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Summer)** (Alert)	<=	2.02	mg/L	Grab	Annual	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Winter)** (Alert)	<=	3.84	mg/L	Grab	Annual	Daily Maximum
00625	Nitrogen, Kjeldahl, Total (TKN as N)	Report	-	mg/L	Grab	Annual	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Grab	Annual	Daily Maximum
00665	Phosphorus, total (as P)	Report	-	mg/L	Grab	Annual	Daily Maximum
00720	Cyanide, total (as CN) (Alert)	<=	0.022	mg/L	Grab	Annual	Daily Maximum
01012	Beryllium, total (as Be)	Report	-	mg/L	Grab	Annual	Daily Maximum
01022	Boron, total (as B)	Report	-	mg/L	Grab	Annual	Daily Maximum
01027	Cadmium, total (as Cd) (Alert)	<=	.0118	mg/L	Grab	Annual	Daily Maximum
01032	Chromium, hexavalent (as Cr) (Alert)	<=	.016	mg/L	Grab	Annual	Daily Maximum
01033	Chromium, trivalent (as Cr) (Alert)	<=	4.371	mg/L	Grab	Annual	Daily Maximum
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Annual	Daily Maximum
01042	Copper, total (as Cu) (Alert)	<=	0.064	mg/L	Grab	Annual	Daily Maximum
01051	Lead, total (as Pb) (Alert)	<=	0.6265	mg/L	Grab	Annual	Daily Maximum
01067	Nickel, total (as Ni) (Alert)	<=	1.705	mg/L	Grab	Annual	Daily Maximum
01077	Silver, total (as Ag) (Alert)	<=	0.0081	mg/L	Grab	Annual	Daily Maximum
01092	Zinc, total (as Zn) (Alert)	<=	0.641	mg/L	Grab	Annual	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Annual	Daily Maximum
01132	Lithium, total (as Li)	Report	-	mg/L	Grab	Annual	Daily Maximum
01147	Selenium, total (as Se) (Alert)	<=	0.020	mg/L	Grab	Annual	Daily Maximum
22708	Uranium, total	Report	-	mg/L	Grab	Annual	Daily Maximum
50050	Flow	Report	-	MGD	Calculated	Annual	Daily Maximum
70295	Total Dissolved Solids (TDS)	Report	-	mg/L	Grab	Annual	Daily Maximum
70505	Phosphate, total, color method (as P)	Report	-	mg/L	Grab	Annual	Daily Maximum
71900	Mercury, total (as Hg)	Report	-	ng/L	Grab	Annual	Daily Maximum
77885	Methanol, total	Report	-	mg/L	Grab	Annual	Daily Maximum

* pH analyses shall be performed within fifteen (15) minutes of sample collection.

** Sampling results for these outfalls will be compared to the applicable stormwater benchmarks in Part IV.K. The SWPPP shall be reviewed at least annually to access ways that the wet weather pollutant loading can be reduced through good housekeeping practices.
*** Monitoring will be required prior to completion of the mercury treatment facility. Wet weather monitoring after the diversion will be covered at instream monitoring point C11.

INSTREAM WET WEATHER EAST FORK POPLAR CREEK C11, C08, C05, C03, EFP (STATION 17)

Code	Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
00010	Temperature, water deg. C (Alert)	<=	30.5	deg C	Grab	Annual	Daily Maximum
00400	pH* (Alert)	>=	6.0	SU	Grab	Annual	Minimum
00400	pH* (Alert)	<=	9.0	SU	Grab	Annual	Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Annual	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Summer)** (Alert)	<=	2.02	mg/L	Grab	Annual	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Winter)** (Alert)	<=	3.84	mg/L	Grab	Annual	Daily Maximum
00625	Nitrogen, Kjeldahl, Total (TKN as N)	Report	-	mg/L	Grab	Annual	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Grab	Annual	Daily Maximum
00665	Phosphorus, total (as P)	Report	-	mg/L	Grab	Annual	Daily Maximum
00720	Cyanide, total (as CN) (Alert)	Report	0.022	mg/L	Grab	Annual	Daily Maximum
01012	Beryllium, total (as Be)	Report	-	mg/L	Grab	Annual	Daily Maximum
01022	Boron, total (as B)	Report	-	mg/L	Grab	Annual	Daily Maximum
01027	Cadmium, total (as Cd) (Alert)	<=	.0118	mg/L	Grab	Annual	Daily Maximum
01032	Chromium, hexavalent (as Cr) (Alert)	<=	.016	mg/L	Grab	Annual	Daily Maximum
01033	Chromium, trivalent (as Cr) (Alert)	<=	4.371	mg/L	Grab	Annual	Daily Maximum
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Annual	Daily Maximum
01042	Copper, total (as Cu) (Alert)	<=	0.064	mg/L	Grab	Annual	Daily Maximum
01051	Lead, total (as Pb) (Alert)	<=	0.6265	mg/L	Grab	Annual	Daily Maximum
01067	Nickel, total (as Ni) (Alert)	<=	1.705	mg/L	Grab	Annual	Daily Maximum
01077	Silver, total (as Ag) (Alert)	<=	0.0081	mg/L	Grab	Annual	Daily Maximum
01092	Zinc, total (as Zn) (Alert)	<=	0.641	mg/L	Grab	Annual	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Annual	Daily Maximum
01132	Lithium, total (as Li)	Report	-	mg/L	Grab	Annual	Daily Maximum
01147	Selenium, total (as Se) (Alert)	<=	0.020	mg/L	Grab	Annual	Daily Maximum
22708	Uranium, total	Report	-	mg/L	Grab	Annual	Daily Maximum
50050	Flow	Report	-	MGD	Calculated	Annual	Daily Maximum
70295	Total Dissolved Solids (TDS)	Report	-	mg/L	Grab	Annual	Daily Maximum
70505	Phosphate, total, color method (as P)	Report	-	mg/L	Grab	Annual	Daily Maximum
71900	Mercury, total (as Hg)	Report	-	ng/L	Grab	Annual	Daily Maximum
77885	Methanol, total	Report	-	mg/L	Grab	Annual	Daily Maximum

* pH analyses shall be performed within fifteen (15) minutes of sample collection.

STORMWATER OUTFALL S30 TO BEAR CREEK
Temporary Concrete Mixing Plant for Uranium Processing Facility Construction

Description : External Outfall, Number : S30, Monitoring : Effluent Gross, Season : All Year							
Code	**Parameter**	**Qualifier**	**Value**	**Unit**	**Sample Type**	**Frequency**	**Statistical Base**
00400	pH* (Alert)	>=	6.0	SU	Grab	Annual	Minimum
00400	pH* (Alert)	<=	9.0	SU	Grab	Annual	Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Annual	Daily Maximum
50050	Flow	Report	-	MGD	Calculated	Annual	Daily Maximum

* pH analyses shall be performed within fifteen (15) minutes of sample collection.
** Sampling results for these outfalls will be compared to the applicable stormwater benchmarks in Part IV.K. The SWPPP shall be reviewed at least annually to access ways that the wet weather pollutant loading can be reduced through good housekeeping practices.

INSTREAM WET WEATHER BEAR CREEK S06 AND S24

Description : Receiving Water (Ambient), Number : S06 & S24, Monitoring : Effluent Gross, Season : All Year							
Code	**Parameter**	**Qualifier**	**Value**	**Unit**	**Sample Type**	**Frequency**	**Statistical Base**
00010	Temperature, water deg. C (Alert)	<=	30.5	deg C	Grab	Annual	Daily Maximum
00400	pH* (Alert)	>=	6.0	SU	Grab	Annual	Minimum
00400	pH* (Alert)	<=	9.0	SU	Grab	Annual	Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Annual	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Summer)** (Alert)	<=	2.02	mg/L	Grab	Annual	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Winter)** (Alert)	<=	3.84	mg/L	Grab	Annual	Daily Maximum
00625	Nitrogen, Kjeldahl, Total (TKN as N)	Report	-	mg/L	Grab	Annual	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Grab	Annual	Daily Maximum
00665	Phosphorus, total (as P)	Report	-	mg/L	Grab	Annual	Daily Maximum
00720	Cyanide, total (as CN) (Alert)	<=	0.022	mg/L	Grab	Annual	Daily Maximum
01012	Beryllium, total (as Be)	Report	-	mg/L	Grab	Annual	Daily Maximum
01022	Boron, total (as B)	Report	-	mg/L	Grab	Annual	Daily Maximum
01027	Cadmium, total (as Cd) (Alert)	<=	.0188	mg/L	Grab	Annual	Daily Maximum
01032	Chromium, hexavalent (as Cr) (Alert)	<=	.016	mg/L	Grab	Annual	Daily Maximum
01033	Chromium, trivalent (as Cr) (Alert)	<=	6.585	mg/L	Grab	Annual	Daily Maximum
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Annual	Daily Maximum
01042	Copper, total (as Cu) (Alert)	<=	0.103	mg/L	Grab	Annual	Daily Maximum

01051	Lead, total (as Pb) (Alert)	<=	1.063	mg/L	Grab	Annual	Daily Maximum
01067	Nickel, total (as Ni) (Alert)	<=	2.604	mg/L	Grab	Annual	Daily Maximum
01077	Silver, total (as Ag) (Alert)	<=	0.0191	mg/L	Grab	Annual	Daily Maximum
01092	Zinc, total (as Zn) (Alert)	<=	0.979	mg/L	Grab	Annual	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Annual	Daily Maximum
01132	Lithium, total (as Li)	Report	-	mg/L	Grab	Annual	Daily Maximum
01147	Selenium, total (as Se) (Alert)	<=	0.020	mg/L	Grab	Annual	Daily Maximum
22708	Uranium, total	Report	-	mg/L	Grab	Annual	Daily Maximum
50050	Flow	Report	-	MGD	Calculated	Annual	Daily Maximum
70295	Total Dissolved Solids (TDS)	Report	-	mg/L	Grab	Annual	Daily Maximum
70505	Phosphate, total, color method (as P)	Report	-	mg/L	Grab	Annual	Daily Maximum
71900	Mercury, total (as Hg)	Report	-	ng/L	Grab	Annual	Daily Maximum

* pH analyses shall be performed within fifteen (15) minutes of sample collection.
** Sampling results for these outfalls will be compared to the applicable stormwater benchmarks in Part IV.K. The SWPPP shall be reviewed at least annually to access ways that the wet weather pollutant loading can be reduced through good housekeeping practices.

INSTREAM WET WEATHER MONITORING S17 (KERR HOLLOW QUARRY), S18 (LANDFILLS V AND VII), AND S19 (ROGER'S QUARRY) UNNAMED TRIBUTARIES OF CLINCH RIVER

Description : Receiving Water (Ambient), Number : S17, S18, & S19, Monitoring : Instream Monitoring, Season : All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
00400	pH* (Alert)	>=	6.0	SU	Grab	Annual	Minimum
00400	pH* (Alert)	<=	9.0	SU	Grab	Annual	Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Annual	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Summer)** (Alert)	<=	2.02	mg/L	Grab	Annual	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Winter)** (Alert)	<=	3.84	mg/L	Grab	Annual	Daily Maximum
00625	Nitrogen, Kjeldahl, Total (TKN as N)	Report	-	mg/L	Grab	Annual	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Grab	Annual	Daily Maximum
00665	Phosphorus, total (as P)	Report	-	mg/L	Grab	Annual	Daily Maximum
00720	Cyanide, total (as CN) (Alert)	<=	0.022	mg/L	Grab	Annual	Daily Maximum
01012	Beryllium, total (as Be)	Report	-	mg/L	Grab	Annual	Daily Maximum
01022	Boron, total (as B)	Report	-	mg/L	Grab	Annual	Daily Maximum
01027	Cadmium, total (as Cd) (Alert)	<=	.0118	mg/L	Grab	Annual	Daily Maximum
01032	Chromium, hexavalent (as Cr) (Alert)	<=	.016	mg/L	Grab	Annual	Daily Maximum
01033	Chromium, trivalent (as Cr) (Alert)	<=	4.371	mg/L	Grab	Annual	Daily Maximum
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Annual	Daily Maximum
01042	Copper, total (as Cu) (Alert)	<=	0.064	mg/L	Grab	Annual	Daily Maximum
01051	Lead, total (as Pb) (Alert)	<=	0.6265	mg/L	Grab	Annual	Daily Maximum

01067	Nickel, total (as Ni) (Alert)	<=	1.705	mg/L	Grab	Annual	Daily Maximum
01077	Silver, total (as Ag) (Alert)	<=	0.0081	mg/L	Grab	Annual	Daily Maximum
01092	Zinc, total (as Zn) (Alert)	<=	0.641	mg/L	Grab	Annual	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Annual	Daily Maximum
01132	Lithium, total (as Li)	Report	-	mg/L	Grab	Annual	Daily Maximum
01147	Selenium, total (as Se) (Alert)	<=	0.020	mg/L	Grab	Annual	Daily Maximum
22708	Uranium, total	Report	-	mg/L	Grab	Annual	Daily Maximum
50050	Flow	Report	-	MGD	Calculated	Annual	Daily Maximum
70295	Total Dissolved Solids (TDS)	Report	-	mg/L	Grab	Annual	Daily Maximum
70505	Phosphate, total, color method (as P)	Report	-	mg/L	Grab	Annual	Daily Maximum
71900	Mercury, total (as Hg)	Report	-	ng/L	Grab	Annual	Daily Maximum

* pH analyses shall be performed within fifteen (15) minutes of sample collection.

Instream Monitoring Points (Dry Weather)

INSTREAM MONITORING STATION FOR BEAR CREEK S06 AND S24 – PERMIT LIMITS

Description : External Outfall, Number : S06 & S24, Monitoring : Instream Monitoring, Season : All Year							
Code	**Parameter**	**Qualifier**	**Value**	**Unit**	**Sample Type**	**Frequency**	**Statistical Base**
00400	pH* (Alert)	>=	6.0	SU	Grab	Quarterly	Minimum
00400	pH* (Alert)	<=	9.0	SU	Grab	Quarterly	Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Summer)** (Alert)	<=	2.02	mg/L	Grab	Quarterly	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Summer)** (Alert)	<=	1.01	mg/L	Grab	Quarterly	Monthly Average
00610	Nitrogen, Ammonia total (as N) (Winter)** (Alert)	<=	3.84	mg/L	Grab	Quarterly	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Winter)** (Alert)	<=	1.92	mg/L	Grab	Quarterly	Monthly Average
00625	Nitrogen, Kjeldahl, Total (TKN as N)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
00665	Phosphorus, total (as P)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
00720	Cyanide, total (as CN) (Alert)	<=	0.022	mg/L	Grab	Quarterly	Daily Maximum
00720	Cyanide, total (as CN) (Alert)	<=	0.0052	mg/L	Grab	Quarterly	Monthly Average
01012	Beryllium, total (as Be)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
01022	Boron, total (as B)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
01027	Cadmium, total (as Cd) (Alert)	<=	.0188	mg/L	Grab	Quarterly	Daily Maximum
01027	Cadmium, total (as Cd) (Alert)	<=	.0062	mg/L	Grab	Quarterly	Monthly Average

01032	Chromium, hexavalent (as Cr) (Alert)	<=	.011	mg/L	Grab	Quarterly	Monthly Average
01032	Chromium, hexavalent (as Cr) (Alert)	<=	.016	mg/L	Grab	Quarterly	Daily Maximum
01033	Chromium, trivalent (as Cr) (Alert)	<=	6.585	mg/L	Grab	Quarterly	Daily Maximum
01033	Chromium, trivalent (as Cr) (Alert)	<=	0.857	mg/L	Grab	Quarterly	Monthly Average
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Quarterly	Monthly Average
01042	Copper, total (as Cu) (Alert)	<=	0.103	mg/L	Grab	Quarterly	Daily Maximum
01042	Copper, total (as Cu) (Alert)	<=	0.0625	mg/L	Grab	Quarterly	Monthly Average
01051	Lead, total (as Pb) (Alert)	<=	1.063	mg/L	Grab	Quarterly	Daily Maximum
01051	Lead, total (as Pb) (Alert)	<=	0.0414	mg/L	Grab	Quarterly	Monthly Average
01067	Nickel, total (as Ni) (Alert)	<=	2.604	mg/L	Grab	Quarterly	Daily Maximum
01067	Nickel, total (as Ni) (Alert)	<=	0.289	mg/L	Grab	Quarterly	Monthly Average
01077	Silver, total (as Ag) (Alert)	<=	0.0191	mg/L	Grab	Quarterly	Daily Maximum
01092	Zinc, total (as Zn) (Alert)	<=	0.979	mg/L	Grab	Quarterly	Daily Maximum
01092	Zinc, total (as Zn) (Alert)	<=	0.987	mg/L	Grab	Quarterly	Monthly Average
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
01132	Lithium, total (as Li)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
01147	Selenium, total (as Se) (Alert)	<=	0.020	mg/L	Grab	Quarterly	Daily Maximum
01147	Selenium, total (as Se) (Alert)	<=	0.0031	mg/L	Grab	Quarterly	Monthly Average
22708	Uranium, total	Report	-	mg/L	Grab	Quarterly	Daily Maximum
50050	Flow	Report	-	MGD	Calculated	Quarterly	Daily Maximum
70295	Total Dissolved Solids (TDS)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
70505	Phosphate, total, color method (as P)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
71900	Mercury, total (as Hg)	Report	-	ng/L	Grab	Quarterly	Daily Maximum

* pH analyses shall be performed within fifteen (15) minutes of sample collection.

INSTREAM MONITORING STATION
UNNAMED TRIBUTARY OF CLINCH RIVER S17, S19

Description : Receiving Water (Ambient), Number : S17 & S19, Monitoring : Instream Monitoring, Season : All Year							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
00400	pH* (Alert)	>=	6.0	SU	Grab	Quarterly	Minimum
00400	pH* (Alert)	<=	9.0	SU	Grab	Quarterly	Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Summer)** (Alert)	<=	2.02	mg/L	Grab	Quarterly	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Summer)** (Alert)	<=	1.01	mg/L	Grab	Quarterly	Monthly Average
00610	Nitrogen, Ammonia total (as N) (Winter)** (Alert)	<=	3.84	mg/L	Grab	Quarterly	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Winter)** (Alert)	<=	1.92	mg/L	Grab	Quarterly	Monthly Average
00625	Nitrogen, Kjeldahl, Total (TKN as N)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
00665	Phosphorus, total (as P)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
00720	Cyanide, total (as CN) (Alert)	<=	0.022	mg/L	Grab	Quarterly	Daily Maximum
00720	Cyanide, total (as CN) (Alert)	<=	0.0052	mg/L	Grab	Quarterly	Monthly Average
01012	Beryllium, total (as Be)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
01022	Boron, total (as B)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
01027	Cadmium, total (as Cd) (Alert)	<=	.0118	mg/L	Grab	Quarterly	Daily Maximum
01027	Cadmium, total (as Cd) (Alert)	<=	.0043	mg/L	Grab	Quarterly	Monthly Average
01032	Chromium, hexavalent (as Cr) (Alert)	<=	.011	mg/L	Grab	Quarterly	Monthly Average
01032	Chromium, hexavalent (as Cr) (Alert)	<=	.016	mg/L	Grab	Quarterly	Daily Maximum
01033	Chromium, trivalent (as Cr) (Alert)	<=	4.371	mg/L	Grab	Quarterly	Daily Maximum
01033	Chromium, trivalent (as Cr) (Alert)	<=	0.569	mg/L	Grab	Quarterly	Monthly Average
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Quarterly	Monthly Average
01042	Copper, total (as Cu) (Alert)	<=	0.064	mg/L	Grab	Quarterly	Daily Maximum
01042	Copper, total (as Cu) (Alert)	<=	0.0407	mg/L	Grab	Quarterly	Monthly Average
01051	Lead, total (as Pb) (Alert)	<=	0.6265	mg/L	Grab	Quarterly	Daily Maximum
01051	Lead, total (as Pb) (Alert)	<=	0.0244	mg/L	Grab	Quarterly	Monthly Average
01067	Nickel, total (as Ni) (Alert)	<=	1.705	mg/L	Grab	Quarterly	Daily Maximum
01067	Nickel, total (as Ni) (Alert)	<=	0.189	mg/L	Grab	Quarterly	Monthly Average
01077	Silver, total (as Ag) (Alert)	<=	0.0081	mg/L	Grab	Quarterly	Daily Maximum
01092	Zinc, total (as Zn) (Alert)	<=	0.641	mg/L	Grab	Quarterly	Daily Maximum

01092	Zinc, total (as Zn) (Alert)	<=	0.646	mg/L	Grab	Quarterly	Monthly Average
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
01132	Lithium, total (as Li)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
01147	Selenium, total (as Se) (Alert)	<=	0.020	mg/L	Grab	Quarterly	Daily Maximum
01147	Selenium, total (as Se) (Alert)	<=	0.0031	mg/L	Grab	Quarterly	Monthly Average
22708	Uranium, total	Report	-	mg/L	Grab	Quarterly	Daily Maximum
50050	Flow	Report	-	MGD	Calculated	Quarterly	Daily Maximum
70295	Total Dissolved Solids (TDS)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
70505	Phosphate, total, color method (as P)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
71900	Mercury, total (as Hg)	Report	-	ng/L	Grab	Quarterly	Monthly Average

* pH analyses shall be performed within fifteen (15) minutes of sample collection.

INSTREAM MONITORING STATION
EAST FORK POPLAR CREEK C11, C08, C05, C03, EFP (STATION 17)

Code	Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
00010	Temperature, water deg. C (Alert)	<=	30.5	deg C	Grab	Quarterly	Daily Maximum
00400	pH* (Alert)	>=	6.0	SU	Grab	Quarterly	Minimum
00400	pH* (Alert)	<=	9.0	SU	Grab	Quarterly	Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Summer)** (Alert)	<=	2.02	mg/L	Grab	Quarterly	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Summer)** (Alert)	<=	1.01	mg/L	Grab	Quarterly	Monthly Average
00610	Nitrogen, Ammonia total (as N) (Winter)** (Alert)	<=	3.84	mg/L	Grab	Quarterly	Daily Maximum
00610	Nitrogen, Ammonia total (as N) (Winter)** (Alert)	<=	1.92	mg/L	Grab	Quarterly	Monthly Average
00625	Nitrogen, Kjeldahl, Total (TKN as N)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
00665	Phosphorus, total (as P)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
00720	Cyanide, total (as CN) (Alert)	Report	0.022	mg/L	Grab	Quarterly	Daily Maximum
00720	Cyanide, total (as CN) (Alert)	Report	0.0052	mg/L	Grab	Quarterly	Monthly Average
01012	Beryllium, total (as Be)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
01022	Boron, total (as B)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
01027	Cadmium, total (as Cd) (Alert)	<=	.0118	mg/L	Grab	Quarterly	Daily Maximum
01027	Cadmium, total (as Cd) (Alert)	<=	.0043	mg/L	Grab	Quarterly	Monthly Average
01032	Chromium, hexavalent (as Cr) (Alert)	<=	.011	mg/L	Grab	Quarterly	Monthly Average

01032	Chromium, hexavalent (as Cr) (Alert)	<=	.016	mg/L	Grab	Quarterly	Daily Maximum
01033	Chromium, trivalent (as Cr) (Alert)	<=	4.371	mg/L	Grab	Quarterly	Daily Maximum
01033	Chromium, trivalent (as Cr) (Alert)	<=	0.569	mg/L	Grab	Quarterly	Monthly Average
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Quarterly	Monthly Average
01042	Copper, total (as Cu) (Alert)	<=	0.064	mg/L	Grab	Quarterly	Daily Maximum
01042	Copper, total (as Cu) (Alert)	<=	0.0407	mg/L	Grab	Quarterly	Monthly Average
01051	Lead, total (as Pb) (Alert)	<=	0.6265	mg/L	Grab	Quarterly	Daily Maximum
01051	Lead, total (as Pb) (Alert)	<=	0.0244	mg/L	Grab	Quarterly	Monthly Average
01067	Nickel, total (as Ni) (Alert)	<=	1.705	mg/L	Grab	Quarterly	Daily Maximum
01067	Nickel, total (as Ni) (Alert)	<=	0.189	mg/L	Grab	Quarterly	Monthly Average
01077	Silver, total (as Ag) (Alert)	<=	0.0081	mg/L	Grab	Quarterly	Daily Maximum
01092	Zinc, total (as Zn) (Alert)	<=	0.641	mg/L	Grab	Quarterly	Daily Maximum
01092	Zinc, total (as Zn) (Alert)	<=	0.646	mg/L	Grab	Quarterly	Monthly Average
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
01132	Lithium, total (as Li)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
01147	Selenium, total (as Se) (Alert)	<=	0.020	mg/L	Grab	Quarterly	Daily Maximum
01147	Selenium, total (as Se) (Alert)	<=	0.0031	mg/L	Grab	Quarterly	Monthly Average
22708	Uranium, total	Report	-	mg/L	Grab	Quarterly	Daily Maximum
50050	Flow	Report	-	MGD	Calculated	Quarterly	Daily Maximum
50060	Chlorine, total residual (TRC) (Alert)	<=	.019	mg/L	Grab	Quarterly	Daily Maximum
50060	Chlorine, total residual (TRC) (Alert)	<=	.011	mg/L	Grab	Quarterly	Monthly Average
70295	Total Dissolved Solids (TDS)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
70505	Phosphate, total, color method (as P)	Report	-	mg/L	Grab	Quarterly	Daily Maximum
71900	Mercury, total (as Hg)	Report	-	ng/L	Grab	Quarterly	Daily Maximum

* pH analyses shall be performed within fifteen (15) minutes of sample collection.

Report Submittal Schedule		
Item Number	**Comments**	**Due Date**
1	Water Usage Study Initial Submittal	Fifteen months from permit effective date
2	Water Usage Study Annual Updates	Twelve months from submittal of item number 1
3	Dechlorination Chemical Report Submittal	Twelve months from permit effective date
4	Annual Storm water Report	Every year January 31
5	Biological Monitoring and Abatement Program Annual Report	Every year July 31
6	Outfall 200 Annual Biomonitoring Report	Every year March 31
7	Wastewater Control Plan	Twelve months from permit effective date
8	Wastewater Sampling Method and Detection Levels Report	Six months from permit effective date
9	Mercury Treatment Facility Schedule of Compliance Updates	Every year

Additional monitoring requirements and conditions applicable to all outfalls include:

Not later than 30 calendar days after the new mercury treatment facility (MTF) is commissioned and brought online, the permittee will notify the division's Compliance and Enforcement Unit in writing of the date the MTF began discharging.

Water Treatment Chemicals – The facility shall maintain concentrations of water treatment chemicals in the effluent at the sampling point that are below the toxic concentrations provided in the technical literature for fathead minnows and water fleas utilized in the division's biomonitoring tests or the most similar species. The facility shall maintain records (MSDS sheets, calculations, etc.) documenting the feed rates for the chemicals.

There shall be no distinctly visible solids, scum, foam, oily slick, or the formation of slimes, bottom deposits, or sludge banks of such size or character as to impair the usefulness of the receiving water's designated uses as set forth in Tennessee Rule 0400-40-03 and 0400-40-04.

The wastewater discharge shall not contain pollutants in quantities that will be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life in the receiving stream.

Sludge or any other material removed by any treatment works must be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, TCA 68-31-101 et seq. and the Tennessee Hazardous Waste Management Act, TCA 68-46-101 et seq.

A permit limit may be less than the accepted detection level. The permittee must use the correct detection levels in all analytical testing required in the permit. The required detection level is determined from the use of sufficiently sensitive methods as defined in the Rules of the Department of Environment and Conservation, Division of Water Resources, Chapter 0400-40-03-.05(8). In instances where a result is non-detect and the method detection level (MDL) is low enough to demonstrate compliance with the permit limit, the permittee must report less than (<) the MDL value. In instances where a result is non-detect and

the MDL is not low enough to demonstrate compliance with the permit limit, the permittee should report "BDL" (below detection level) or "NODI = B" on DMRs.

For example, if the limit is 0.02 mg/L with a detection level of 0.05 mg/l and detection is shown, 0.05 mg/l must be reported. In contrast, if the limit is 0.02 mg/L with an MDL of 0.01 mg/L and no detection is shown, the permittee must report <0.01 mg/L. If the limit is 0.02 mg/L with an MDL of 0.05 mg/L and no detection is shown, the permittee must report "BDL" or "NODI = B" on DMRs.

Reported results are to correspond to the number of significant figures (decimal places) set forth in the permit conditions. The permittee shall round values, if allowed by the method of sample analysis, using a uniform rounding convention adopted by the permittee.

B. MONITORING PROCEDURES

1. Representative Sampling

Samples and measurements taken in compliance with the monitoring requirements specified herein shall be representative of the volume and nature of the monitored discharge, and shall be taken after treatment and prior to mixing with uncontaminated storm water runoff or the receiving stream. Samples taken at instream locations will be collected at representative locations within the stream width and depth.

2. Sampling Frequency

If there is a discharge from a permitted outfall on any given day during the monitoring period, the permittee must sample and report the results of analyses accordingly, and the permittee should not mark the 'No Discharge' box on the Discharge Monitoring Report form.

The permittee should mark the 'No Discharge' box on the Discharge Monitoring Report form only if a permitted outfall does not discharge at any time during the monitoring period. If the outfall discharges effluent at any time during the monitoring period, the permittee must provide at least one sampling result from the effluent of that outfall.

3. Test Procedures

a. Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304 (h) of the Clean Water Act (the "Act"), as amended, under which such procedures may be required.

b. Unless otherwise noted in the permit, all pollutant parameters shall be determined according to methods prescribed in Title 40, CFR, Part 136, as amended, promulgated pursuant to Section 304 (h) of the Act. For each pollutant parameter, the most sensitive test method shall be used that allows demonstration of compliance with the permit limits for that parameter. In the case where the permittee reports results indicating that the minimum level of quantitation (ML) determined using the most sensitive method is greater than the permit limit, the test method used and the data demonstrating how the ML was determined must be reported to the division.

c. Total Residual Chlorine

The acceptable methods for analysis of TRC are any methods specified in Title 40, CFR Part 136. The method detection level (MDL) for TRC shall not exceed 0.05 mg/L unless the permittee demonstrates that its MDL is higher. The permittee shall retain the documentation that justifies the higher MDL, and shall have that documentation available for review upon request. In cases where the permit limit is less than the MDL, the reporting of TRC at less than the MDL shall be interpreted to constitute compliance with the permit limit.

d. Mercury

Analyses for Total Mercury in water will use EPA Method 245.1 to provide a detection level of 0.050 ug/l or lower.

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date and time of sampling;

b. The exact person(s) collecting samples;

c. The dates and times the analyses were performed;

d. The person(s) or laboratory who performed the analyses;

d. The analytical techniques or methods used, and;

f. The results of all required analyses.

5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation shall be retained for a minimum of three (3) years, or longer, if requested by the Division of Water Resources Control.

C. DEFINITIONS

An Alert **Value** is a benchmark concentration that will flag a discharge that may have the reasonable potential to cause or contribute to a violation of instream water quality criteria. Alert values are utilized in permit tables for parameters whose pollutant loading is covered under another entity's jurisdiction or where concentration values do not typically approach or create the potential to violate water quality criteria. An Alert value differs from an enforceable numerical limit in that an exceedance of the Alert value is not a permit violation. The failure to report a sampled concentration with an Alert value is a permit violation.

Unless elsewhere specified, **summer** season is the months of May through October; and the **winter** season is the months of November through April.

The ***Daily Maximum Concentration*** is a limitation on the average concentration, in milligrams per liter (mg/L), of the discharge during any calendar day. When a proportional-to-flow composite sampling device is used, the daily concentration is the concentration of that 24-hour composite; when other sampling means are used, the daily concentration is the arithmetic mean of the concentrations of equal volume samples collected during any calendar day or sampling period.

The ***Monthly Average Concentration***, a limitation on the discharge concentration, in milligrams per liter (mg/L), is the arithmetic mean of all daily concentrations determined in a one-month period. For the purpose of this definition, a frequency of 2/Month is representative of 2 separate daily samples, each sample having been collected on a separate day during the monitoring period.

The ***Monthly Average Amount***, a discharge limitation measured in pounds per day (lb/day), is the total amount of any pollutant in the discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by a permit, the monthly average amount shall be determined by the summation of all the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made. For the purpose of this definition, a frequency of 2/Month is representative of 2 separate daily samples, each sample having been collected on a separate day during the monitoring period.

The ***Daily Maximum Amount***, is a limitation measured in pounds per day (lb/day), on the total amount of any pollutant in the discharge by weight during any calendar day.

The ***Instantaneous Concentration*** is a limitation on the concentration, in milligrams per liter (mg/L), of any pollutant contained in the discharge determined from a grab sample taken at any point in time.

A ***Composite Sample***, for the purposes of this permit, is a sample collected continuously over a period of 24-hours at a rate proportional to the flow. Composite sample should be a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period.

For the purposes of this permit, a ***Composite Sample*** for non-stormwater discharges can be either a sample collected continuously over a period of 24-hours at a rate proportional to the flow, or a composite sample of at least 24 grab samples collected at regular intervals over a period of 24-hours.

A Grab Sample, for the purposes of this permit, is defined as a single effluent sample of at least 100 milliliters (sample volumes <100 milliliters are allowed when specified per standard methods, latest edition) collected at a randomly selected time over a period not exceeding 15 minutes. The sample(s) shall be collected at the period(s) most representative of the total discharge.

For the purpose of this permit, a ***Calendar Day*** is defined as any 24-hour period.

For the purpose of this permit, a ***Quarter*** is defined as any one of the following three month periods: January 1 through March 31, April 1 through June 30, July 1 through September 30, or October 1 through December 31. Quarterly monitoring requirements listed in this permit shall begin on the next quarterly period following the effective date of the renewed permit.

For the purpose of this permit, ***Semi-annually*** means the same as "once every six months." Measurements of the effluent characteristics concentrations may be made anytime during a 6 month period

beginning from the issuance date of this permit so long as the second set of measurements for a given 12 month period are made approximately 6 months subsequent to that time, if feasible.

For the purpose of this permit, ***Annually*** is defined as a monitoring frequency of once every twelve (12) months beginning with the date of issuance of this permit so long as the following set of measurements for a given 12 month period are made approximately 12 months subsequent to that time.

Dry Weather Flow shall be construed to represent discharges consisting of process and/or non-process wastewater only.

Wet Weather Flow shall be construed to represent stormwater runoff which, in combination with all process and/or non-process wastewater discharges, as applicable, is discharged during a qualifying storm event.

A **Qualifying Storm Event** is one which is greater than 0.1 inches and that occurs after a period of at least 72 hours after any previous storm event with rainfall of 0.1 inches or greater.

D. ACRONYMS AND ABBREVIATIONS

1Q10 – 1-day minimum, 10-year recurrence interval
30Q5 – 30-day minimum, 5-year recurrence interval
7Q10 – 7-day minimum, 10-year recurrence interval
BAT – best available technology economically achievable
BCT – best conventional pollutant control technology
BDL – below detection level
BOD_5 – five day biochemical oxygen demand
BPT – best practicable control technology currently available
$CBOD_5$ – five day carbonaceous biochemical oxygen demand
CEI – compliance evaluation inspection
CFR – code of federal regulations
CFS – cubic feet per second
CFU – colony forming units
CIU – categorical industrial user
CSO – combined sewer overflow
DMR – discharge monitoring report
D.O. – dissolved oxygen
E. coli – Escherichia coli
EFO – environmental field office
LB(lb) - pound
IC_{25} – inhibition concentration causing 25% reduction in survival, reproduction and growth of the test organisms
IU – industrial user
IWS – industrial waste survey
LC_{50} – acute test causing 50% lethality
MDL – method detection level
MGD – million gallons per day
MG/L(mg/l) – milligrams per liter
ML – minimum level of quantification

ml – milliliter
MLSS – mixed liquor suspended solids
MOR – monthly operating report
NODI – no discharge
NPDES – national pollutant discharge elimination system
PL – permit limit
POTW – publicly owned treatment works
RDL – required detection limit
SAR – semi-annual [pretreatment program] report
SIU – significant industrial user
SSO – sanitary sewer overflow
STP – sewage treatment plant
TCA – Tennessee code annotated
TDEC – Tennessee Department of Environment and Conservation
TIE/TRE – toxicity identification evaluation/toxicity reduction evaluation
TMDL – total maximum daily load
TRC – total residual chlorine
TSS – total suspended solids
WQBEL – water quality based effluent limit

E. REPORTING

1. Monitoring Results

Monitoring results shall continue to be recorded monthly and submitted monthly using NetDMR. Submittals shall be no later than 28 days after the completion of the reporting period. If NetDMR is not functioning, a completed DMR with an original signature shall be submitted to the following address:

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
COMPLIANCE & ENFORCEMENT SECTION
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

If NETDMR is not functioning, a copy of the completed and signed DMR shall be mailed to Knoxville Environmental Field Office (EFO) at the following address:

TENNESSEE DEPT. OF ENVIRONMENT & CONSERVATION
Environmental Field Office - Knoxville
Division of Water Resources
2700 Middlebrook Pike, Suite 220
Knoxville, TN 37921

A copy should be retained for the permittee's files. In addition, any communication regarding compliance with the conditions of this permit must be sent to the two offices listed above. The first DMR is due on the 28th of the month following permit effectiveness.

DMRs and any other information or report must be signed and certified by a responsible corporate officer as defined in 40 CFR 122.22, a general partner or proprietor, or a principal municipal executive officer or ranking elected official, or his duly authorized representative. Such authorization must be submitted in writing and must explain the duties and responsibilities of the authorized representative.

The electronic submission of DMR data will be accepted only if formally approved beforehand by the division. For purposes of determining compliance with this permit, data approved by the division to be submitted electronically is legally equivalent to data submitted on signed and certified DMR forms.

2. Additional Monitoring by Permittee

If the permittee monitors any pollutant specifically limited by this permit more frequently than required at the location(s) designated, using approved analytical methods as specified herein, the results of such monitoring shall be included in the calculation and reporting of the values required in the DMR form. Such increased frequency shall also be indicated on the form.

Monitoring and reporting of metals shall be performed using ICP-MS technology similar to EPA Method 200.8. Where metals are incidentally reported by ICP methods, such as metals reported during ICP analyses for phosphorus compounds, these additional metals will not be reported.

3. Falsifying Results and/or Reports

Knowingly making any false statement on any report required by this permit or falsifying any result may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Water Pollution Control Act, as amended, and in Section 69-3-115 of the Tennessee Water Quality Control Act.

4. Outlier Data

Outlier data include analytical results that are probably false. The validity of results is based on operational knowledge and a properly implemented quality assurance program. False results may include laboratory artifacts, potential sample tampering, broken or suspect sample containers, sample contamination or similar demonstrated quality control flaw.

Outlier data are identified through a properly implemented quality assurance program, and according to ASTM standards (e.g. Grubbs Test, 'h' and 'k' statistics). Furthermore, outliers should be verified, corrected, or removed, based on further inquiries into the matter. If an outlier was verified (through repeated testing and/or analysis), it should remain in the preliminary data set. If an outlier resulted from a transcription or similar clerical error, it should be corrected and subsequently reported.

Therefore, only if an outlier was associated with problems in the collection or analysis of the samples and as such does not conform with the Guidelines Establishing Test Procedures for the Analysis of Pollutants (40 CFR §136), it can be removed from the data set and not reported on the Discharge Monitoring Report forms (DMRs). Otherwise, all results (including monitoring of pollutants more frequently than required at the location(s) designated, using approved analytical methods as specified in the permit) should be included in the calculation and reporting of the values required in the DMR form. You are encouraged to use "comment" section of the DMR form (or attach additional pages), in order to explain any potential outliers or dubious results.

F. SCHEDULE OF COMPLIANCE

Full compliance with all requirements of this document shall be attained from the effective date of this permit, with the exception of the Outfall 200/Outfall MTF numeric effluent limitation for mercury, for which full compliance shall be achieved as soon as possible, but not later than July 1, 2025. The following interim compliance measures are required:

- demolition,
- excavation,
- foundation installation,
- procurement,
- building installation,
- equipment installation,
- system acceptance testing,
- commissioning/startup, and
- turnover to operations.

The permittee shall submit an annual Schedule of Compliance progress report on July 31 of each year until full compliance is achieved detailing the interim compliance measures completed July 1-June 30.

PART II

A. GENERAL PROVISIONS

1. Duty to Reapply

Permittee is not authorized to discharge after the expiration date of this permit. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information and forms as are required to the Director of Water Resources (the "Director") no later than 180 days prior to the expiration date. Such applications must be properly signed and certified.

2. Right of Entry

The permittee shall allow the Director, the Regional Administrator of the U.S. Environmental Protection Agency, or their authorized representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or where records are required to be kept under the terms and conditions of this permit, and at reasonable times to copy these records;

b. To inspect at reasonable times any monitoring equipment or method or any collection, treatment, pollution management, or discharge facilities required under this permit; and

c. To sample at reasonable times any discharge of pollutants.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Water Pollution Control Act, as amended, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Division of Water Resources. As required by the Federal Act, effluent data shall not be considered confidential.

4. Proper Operation and Maintenance

a. The permittee shall at all times properly operate and maintain all facilities and systems (and related appurtenances) for collection and treatment which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory and process controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. Backup continuous pH and flow monitoring equipment are not required.

b. Dilution water shall not be added to comply with effluent requirements to achieve BCT, BPT, BAT and or other technology-based effluent limitations such as those in State of Tennessee Rule 0400-40-05-.09.

5. Treatment Facility Failure

The permittee, in order to maintain compliance with this permit, shall control production, all discharges, or both, upon reduction, loss, or failure of the treatment facility, until the facility is restored or an alternative method of treatment is provided. This requirement applies in such situations as the reduction, loss, or failure of the primary source of power.

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

7. Severability

The provisions of this permit are severable. If any provision of this permit due to any circumstance, is held invalid, then the application of such provision to other circumstances and to the remainder of this permit shall not be affected thereby.

8. Other Information

If the permittee becomes aware that he failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, then he shall promptly submit such facts or information.

B. CHANGES AFFECTING THE PERMIT

1. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices.

2. Permit Modification, Revocation, or Termination

a. This permit may be modified, revoked and reissued, or terminated for cause as described in 40 CFR 122.62 and 122.64, Federal Register, Volume 49, No. 188 (Wednesday, September 26, 1984), as amended.

b. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

c. If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established for any toxic pollutant under Section 307(a) of the Federal Water Pollution Control Act, as amended, the Director shall modify or revoke and reissue the permit to conform to the prohibition or to the effluent standard, providing that the effluent standard is more stringent than the limitation in the permit on the toxic pollutant. The permittee shall comply with these effluent standards or prohibitions within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified or revoked and reissued to incorporate the requirement.

d. The filing of a request by the permittee for a modification, revocation, reissuance, termination, or notification of planned changes or anticipated noncompliance does not halt any permit condition.

3. Change of Ownership

This permit may be transferred to another party (provided there are neither modifications to the facility or its operations, nor any other changes which might affect the permit limits and conditions contained in the permit) by the permittee if:

a. The permittee notifies the Director of the proposed transfer at least 30 days in advance of the proposed transfer date;

b. The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage, and liability between them; and

c. The Director, within 30 days, does not notify the current permittee and the new permittee of his intent to modify, revoke or reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

Pursuant to the requirements of 40 CFR 122.61, concerning transfer of ownership, the permittee must provide the following information to the division in their formal notice of intent to transfer ownership: 1) the NPDES permit number of the subject permit; 2) the effective date of the proposed transfer; 3) the name and address of the transferor; 4) the name and address of the transferee; 5) the names of the responsible parties for both the transferor and transferee; 6) a statement that the transferee assumes responsibility for the subject NPDES permit; 7) a statement that the transferor relinquishes responsibility for the subject NPDES permit; 8) the signatures of the responsible parties for both the transferor and transferee pursuant to the requirements of 40 CFR 122.22(a), "Signatories to permit applications"; and, 9) a statement regarding any proposed modifications to the facility, its operations, or any other changes which might affect the permit limits and conditions contained in the permit.

4. Change of Mailing Address

The permittee shall promptly provide to the Director written notice of any change of mailing address. In the absence of such notice the original address of the permittee will be assumed to be correct.

C. NONCOMPLIANCE

1. Effect of Noncompliance

All discharges shall be consistent with the terms and conditions of this permit. Any permit noncompliance constitutes a violation of applicable State and Federal laws and is grounds for enforcement action, permit termination, permit modification, or denial of permit reissuance.

2. Reporting of Noncompliance

a. 24-Hour Reporting

In the case of any noncompliance which could cause a threat to public drinking supplies, or any other discharge which could constitute a threat to human health or the environment, the required notice of non-compliance shall be provided to the Division of Water Resources in the appropriate Environmental Field Office within 24-hours from the time the permittee becomes aware of the circumstances. (The Environmental Field Office should be contacted for names and phone numbers of environmental response personnel).

A written submission must be provided within five days of the time the permittee becomes aware of the circumstances unless this requirement is waived by the Director on a case-by-case basis. The permittee shall provide the Director with the following information:

i. A description of the discharge and cause of noncompliance;

ii. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and

iii. The steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

b. Scheduled Reporting

For instances of noncompliance which are not reported under subparagraph 2.a. above, the permittee shall report the noncompliance on the Discharge Monitoring Report. The report shall contain all information concerning the steps taken, or planned, to reduce, eliminate, and prevent recurrence of the violation and the anticipated time the violation is expected to continue.

3. Sanitary Sewer Overflow

a. "***Sanitary Sewer Overflow***" means the discharge to land or water of wastes from any portion of the collection, transmission, or treatment system other than through permitted outfalls.

b. Sanitary Sewer Overflows are prohibited.

c. The permittee shall operate the collection system so as to avoid sanitary sewer overflows. No new or additional flows shall be added upstream of any point in the collection system, which experiences chronic sanitary sewer overflows (greater than 5 events per year) or would otherwise overload any portion of the system.

d. Unless there is specific enforcement action to the contrary, the permittee is relieved of this requirement after: 1) an authorized representative of the Commissioner of the Department of Environment and Conservation has approved an engineering report and construction plans and specifications prepared in accordance with accepted engineering practices for correction of the problem; 2) the correction work is underway; and 3) the cumulative, peak-design, flows potentially added from new connections and line extensions upstream of any chronic overflow point are less than or proportional to the amount of inflow and infiltration removal documented upstream of that point. The inflow and infiltration reduction must be measured by the permittee using practices that are customary in the environmental engineering field and reported in an attachment to a Monthly Operating Report submitted to the local TDEC Environmental Assistance Center. The data measurement period shall be sufficient to account for seasonal rainfall patterns and seasonal groundwater table elevations.

e. In the event that more than five (5) sanitary sewer overflows have occurred from a single point in the collection system for reasons that may not warrant the self-imposed moratorium or completion of the actions identified in this paragraph, the permittee may request a meeting with the Division of Water Resources EFO staff to petition for a waiver based on mitigating evidence.

4. Upset

a. **"*Upset*"** means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

i. An upset occurred and that the permittee can identify the cause(s) of the upset;

ii. The permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;

iii. The permittee submitted information required under "Reporting of Noncompliance" within 24-hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days); and

iv. The permittee complied with any remedial measures required under "Adverse Impact."

5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

6. Bypass

a. **"*Bypass*"** is the intentional diversion of wastewater away from any portion of a treatment facility. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypasses are prohibited unless the following 3 conditions are met:

i. The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;

ii. There are not feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to

prevent a bypass which occurred during normal periods of equipment down-time or preventative maintenance;

iii. The permittee submits notice of an unanticipated bypass to the Division of Water Resources in the appropriate environmental field office within 24-hours of becoming aware of the bypass (if this information is provided orally, a written submission must be provided within five days). When the need for the bypass is foreseeable, prior notification shall be submitted to the Director, if possible, at least 10 days before the date of the bypass.

c. Bypasses not exceeding limitations are allowed only if the bypass is necessary for essential maintenance to assure efficient operation. All other bypasses are prohibited. Allowable bypasses not exceeding limitations are not subject to the reporting requirements of 6.b.iii, above.

d. Bypass does not include diverting from one treatment unit of treatment facility to another for alternate treatment.

7. Washout

a. For domestic wastewater plants only, a "washout" shall be defined as loss of Mixed Liquor Suspended Solids (MLSS) of 30.00% or more. This refers to the MLSS in the aeration basin(s) only. This does not include MLSS decrease due to solids wasting to the sludge disposal system. A washout can be caused by improper operation or from peak flows due to infiltration and inflow.

b. A washout is prohibited. If a washout occurs the permittee must report the incident to the Division of Water Resources in the appropriate Environmental Field Office within 24-hours by telephone. A written submission must be provided within 5 days. The washout must be noted on the discharge monitoring report. Each day of a washout is a separate violation.

D. LIABILITIES

1. Civil and Criminal Liability

Except as provided in permit conditions for "**Bypassing,**" "**Overflow,**" and "**Upset,**" nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Notwithstanding this permit, the permittee shall remain liable for any damages sustained by the State of Tennessee, including but not limited to fish kills and losses of aquatic life and/or wildlife, as a result of the discharge of wastewater to any surface or subsurface waters. Additionally, notwithstanding this Permit, it shall be the responsibility of the permittee to conduct its wastewater treatment and/or discharge activities in a manner such that public or private nuisances or health hazards will not be created.

2. Liability Under State Law

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or the Federal Water Pollution Control Act, as amended.

PART III

OTHER REQUIREMENTS

A. TOXIC POLLUTANTS

The permittee shall notify the Division of Water Resources as soon as it knows or has reason to believe:

1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic substance(s) (listed at 40 CFR 122, Appendix D, Table II and III) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

    a. One hundred micrograms per liter (100 ug/l);

    b. Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;

    c. Five (5) times the maximum concentration value reported for that pollutant(s) in the permit application in accordance with 122.21(g)(7); or

    d. The level established by the Director in accordance with 122.44(f).

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

    a. Five hundred micrograms per liter (500 ug/l);

    b. One milligram per liter (1 mg/L) for antimony;

    c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 122.21(g)(7); or

    d. The level established by the Director in accordance with 122.44(f).

B. REOPENER CLAUSE

If an applicable standard or limitation is promulgated under Sections 301(b)(2)(C) and (D), 304(B)(2), and 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked and reissued to conform to that effluent standard or limitation.

C. PLACEMENT OF SIGNS

Within sixty (60) days of the effective date of this permit, the permittee shall place and maintain a sign(s) at each outfall and any bypass/overflow point in the collection system. For the purposes of this requirement, any bypass/overflow point that has discharged five (5) or more times in the last year must be so posted. The sign(s) should be clearly visible to the public from the bank and the receiving stream or from the nearest public property/right-of-way, if applicable. The minimum sign size should be two feet by two feet (2' x 2') with one inch (1") letters. The sign should be made of durable material and have a white background with black letters.

The sign(s) are to provide notice to the public as to the nature of the discharge and, in the case of the permitted outfalls, that the discharge is regulated by the Tennessee Department of Environment and Conservation, Division of Water Resources. The following is given as an example of the minimal amount of information that must be included on sign:

TREATED INDUSTRIAL WASTEWATER [or INDUSTRIAL STORMWATER]
U.S. Department of Energy National Nuclear Security Administration
(Permittee's Phone Number)
NPDES Permit NO. TN0002968
TENNESSEE DIVISION OF WATER RESOURCES
1-888-891-8332 ENVIRONMENTAL FIELD OFFICE - KNOXVILLE

The above sign shall be posted near the corner of Bear Creek Road and Scarboro Road. Individual outfall signs need list only the Outfall number and category (if applicable).

D. ANTIDEGRADATION

Pursuant to the Rule 0400-40-03-.06, titled "Tennessee Antidegradation Statement," and in consideration of the Department's directive in attaining the greatest degree of effluent reduction achievable in municipal, industrial, and other wastes, the permittee shall further be required, pursuant to the terms and conditions of this permit, to comply with the effluent limitations and schedules of compliance required to implement applicable water quality standards, to comply with a State Water Quality Plan or other State or Federal laws or regulations, or where practicable, to comply with a standard permitting no discharge of pollutants.

E. BIOMONITORING REQUIREMENTS AND LIMITATIONS, CHRONIC

The permittee shall conduct a 3-Brood *Ceriodaphnia dubia* Survival and Reproduction Test and a 7-Day Fathead Minnow *(Pimephales promelas)* Larval Survival and Growth Test on the same samples of final effluent from Outfalls 200 and Outfall MTF.

The measured endpoint for toxicity will be the inhibition concentration causing 25% reduction (IC25) in survival, reproduction, or growth of the test organisms. The IC25 shall be determined based on a 25% reduction as compared to the controls. The average reproduction and growth responses will be determined based on the number of *Ceriodaphnia dubia* or *Pimephales promelas* larvae used to initiate the test.

The test shall be conducted and its results reported based on appropriate replicates of a total of five serial dilutions and a control, using the percent effluent dilutions as presented in the following table:

OUTFALL 200

Serial Dilutions for Whole Effluent Toxicity (WET) Testing					
100% Effluent	**Permit Limit (PL)**	**0.50 X PL**	**0.25 X PL**	**0.125 X PL**	**Control**
% effluent					
100	**100**	**50**	**25**	**12.5**	**0**

The dilution/control water used will be a moderately hard water as described in Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013 (or the most current edition). Results from a chronic standard reference toxicant quality assurance test for each species tested shall be submitted with the discharge monitoring report. Reference toxicant tests shall be conducted as required in EPA-821-R-02-013 (or the most current edition). Additionally, the analysis of this multi-concentration test shall include review of the concentration-response relationship to ensure that calculated test results are interpreted appropriately.

Toxicity will be demonstrated if the IC25 is less than or equal to the permit limit indicated for each outfall in the above table(s). Toxicity demonstrated by the tests specified herein constitutes a violation of this permit.

All tests will be conducted using a minimum of three 24-hour flow-proportionate composite samples of final effluent (e.g., collected on days 1, 3 and 5). If, in any control more than 20% of the test organisms die in 7 days, the test (control and effluent) is considered invalid and the test shall be repeated within 30 days of the date the initial test is invalidated. Furthermore, if the results do not meet the acceptability criteria of section 4.9.1, EPA-821-R-02-013 (or the most current edition), or if the required concentration-response review fails to yield a valid relationship per guidance contained in Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing, EPA-821-B-00-004 (or the most current edition), that test shall be repeated. Any test initiated but terminated before completion must also be reported along with a complete explanation for the termination.

The toxicity tests specified herein shall be conducted at least quarterly (4/year) and begin no later than 120 days from the effective date of this permit.

In the event of a test failure, the permittee must start a follow-up test within 2 weeks and submit results from a follow-up test within 30 days from obtaining initial WET testing results. The follow-up test must be conducted using the same serial dilutions as presented in the corresponding table(s) above. **The follow-up test will not negate an initial failed test. In addition, the failure of a follow-up test will constitute a separate permit violation which must also be reported.**

In the event of 2 consecutive test failures or 3 test failures within a 12-month period for the same outfall, the permittee must initiate a Toxicity Identification Evaluation/Toxicity Reduction Evaluation (TIE/TRE) study within 30 days and so notify the division by letter. This notification shall include a schedule of activities for the initial investigation of that outfall. **During the term of the TIE/TRE study, the frequency of biomonitoring shall be once every three months.** Additionally, the permittee shall submit progress reports once every three months throughout the term of the TIE/TRE study. The toxicity must be reduced to allowable limits for that outfall within 2 years of initiation of the TIE/TRE study. Subsequent to the results obtained from the TIE/TRE studies, the permittee may request an extension of the TIE/TRE

study period if necessary to conduct further analyses. The final determination of any extension period will be made at the discretion of the division.

The TIE/TRE study may be terminated at any time upon the completion and submission of 2 consecutive tests (for the same outfall) demonstrating compliance. Following the completion of TIE/TRE study, the frequency of monitoring will return to a regular schedule, as defined previously in this section as well in Part I of the permit. **During the course of the TIE/TRE study, the permittee will continue to conduct toxicity testing of the outfall being investigated at the frequency of once every three months but will not be required to perform follow-up tests for that outfall during the period of TIE/TRE study.**

Test procedures, quality assurance practices, determinations of effluent survival/reproduction and survival/growth values, and report formats will be made in accordance with Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013, or the most current edition.

Results of all tests, reference toxicant information, copies of raw data sheets, statistical analysis and chemical analyses shall be compiled in a report. The report will be written in accordance with Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013, or the most current edition.

Biomonitoring reports (including follow-up reports) shall be submitted to the division as an attachment to NetDMR submittals.

F. BIOLOGICAL MONITORING AND ABATEMENT PROGRAM (BMAP)

The facility will continue to maintain and implement a biological monitoring and abatement plan (BMAP). The results shall be maintained in a database to characterize the long-term trends relative to the overall aquatic life on the Y-12 site. The BMAP plan shall at a minimum include annual studies which evaluate mercury bioaccumulation and overall biological integrity relative to the division's applicable standards. The annual study shall be submitted to the division for review. The division may require based on the annual review that the plan may be modified, revoked or reissued. The general framework or outline of the study shall include the following items. Macroinvertebrate stream surveys will be conducted in accordance with the TDEC Quality System Standard Operating Procedure for Macroinvertebrate Surveys, latest revision.

1. Frequency

Biological monitoring shall be conducted annually during low flow, high temperature conditions. (Exceptions are for specific streams which are dry in low flow).

2. Location

The sites selected must provide appropriate habitat and must be generally comparable. All selected stream sampling points shall be identified in the BMAP Plan and approved by the EFO

3. Sampling

The BMAP Plan will identify the professional qualifications of personnel selected to perform the survey and will provide measures for advance notice of field work. The Divisions of Water Resources and Remediation desire to be notified at least two weeks prior to conducting the biological survey. The biosurvey will consist of a single habitat semi-quantitative macroinvertebrate sample and a habitat survey. Habitat assessments, sample collection, subsampling, taxonomy and metric calculation must adhere exactly to the following methodology.

a. Habitat Assessment

Appropriate habitat assessment forms will be completed concurrent with each biological survey. These forms can be found in Appendix A-1 of EPA's Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers (EPA 841-B-99-002). The High Gradient Form will be used in conjunction with riffle kick collections.

b. Macroinvertebrate Sample Collection

A semi-quantitative single habitat macroinvertebrate sample will be collected at each site. The habitat to be sampled will be appropriate for ecoregion 67f. Two (2) one meter square riffle kicks using a 500 micron mesh net will be collected. Debris from both kicks will be composited and preserved. All sorting and identification is to be conducted in the laboratory.

c. Subsampling

All samples will be reduced to 200+/- 20% organisms following subsampling protocols detailed in section 7.3 *Laboratory Processing for Macroinvertebrate Samples* in EPA's Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers (EPA 841-B-99-002.

d. Taxonomy

All taxa in the subsample will be identified to genus level.

e. Biometrics

The following biometrics will be calculated for each subsample (without extrapolation).

- Taxa Richness (TR)
- EPT Richness (EPT)
- EPT Abundance - Cheumatopsyche (%EPT-C)
- Chironomidae and Oligochaeta Abundance (%OC)
- North Carolina Biotic Index (NCBI) using values found in Appendix C of the TDEC QSSOP
- Percent Contribution of Nutrient Tolerant Organisms (%TNUTOL)
- Percent Clingers Cheumatopsyche (%CLINGERS -Cheum) using designations found in Appendix C of the TDEC QSSOP

4. Station Information

The following information will be recorded at each station during the biosurvey

a. Water temperature (°C)
b. Dissolved Oxygen (mg/l)
c. pH (S.U.)
d. Conductivity (umhos)
e. Stream Flow (cfs)
f. TSS (mg/L)
g. TDS (mg/L)
h. Turbidity (NTU)

5. Reporting

The permittee shall submit BMAP data for review along with the raw data, taxa lists, and biometric calculations annually. The report should include results from all three watersheds covered by this permit. DOE reports must include macroinvertebrate taxonomic lists and raw data for samples collected using State protocols. The annual report will be submitted using NetDMR as an attachment to the July DMR of each year. An electronic copy of the annual BMAP report will also be provided to the DWR Planning & Standards and Permit Sections, Knoxville Environmental Field Office, and TDEC Div. of Remediation, Oak Ridge Office.

G. WASTEWATER CONTROL PLAN

The permittee shall establish procedures and criteria used to determine which wastewaters are routed to which treatment system. The procedures shall describe what wastewater acceptance criteria are used to determine which wastewaters are sent for treatment and measures used to control influents introduced to the treatment systems. The procedures shall be updated within one year of the permit effective date and submitted to the division. Documentation of such decisions and operational records for the wastewater systems shall be maintained for at least three years and shall be made available to Department personnel within 15 days if requested. The procedures shall at a minimum incorporate the following items.

1. Define and describe for each treatment train the types of wastewaters that are prohibited from being introduced to the system due to the potential detrimental effects on the equipment.

2. Define and describe the characterization of new wastewater sources to a particular treatment train. The documentation of the characterization process shall be included in the records.

If the wastewater loading to the treatment system results in the treated effluent having pollutant loading that exceeds 85% of the permit limit at for the internal monitoring point and/or Outfall 200, the facility will be required to submit to the division a capacity analysis study to the division which reviews the needs for the installation of additional treatment trains.

The permittee shall maintain a current set of plans relative to the site's drainage system. The plans shall be updated based on modifications to the drainage system within twelve months of completion of the modifications.

H. WATER USAGE STUDY

The permittee shall conduct a water usage study which includes all outfalls that discharge to East Fork Poplar Creek between the proposed Outfall 200 and the proposed Outfall MTF. The study will include each of the following items at a minimum.

a. Identification of the type of wastewater discharged from each outfall.
b. Flow rates from each outfall for both winter and summer conditions.
c. Description of any treatment for the outfall including but not limited to chlorination and dechlorination.
d. Verification of the latitude and longitude for each outfall.
e. An updated drawing/map which notes each outfall's location.
f. An updated water balance/diagram for the facility.

The results of the initial study are to be submitted 15 months from the permit effective date. Annual updates/revisions to this study are to be provided 12 months from the initial submittal.

I. DECHLORINATION CHEMICAL STUDY

The facility shall submit to the division within twelve months of permit effective date a dechlorination chemical study report which includes at a minimum each of the following items.

a. MSDS sheets for all dechlorination chemicals used at the facility or considered for use at the facility.
b. Description of the decision making process regarding which chemical is the most appropriate for a particular type of cooling water.
c. Description of how each chemical reacts with the legacy mercury loading at the facility. This discussion shall address the research into this subject that has been conducted at Oak Ridge National Laboratory.
d. A list and description of other alternative chemicals that could be utilized for disinfection of the cooling water.

J. MERCURY TREATMENT FACILITY CONSTRUCTION

The construction of mercury treatment facility began prior to the issuance of this permit and is expected to continue beyond this permit period (2020-2023). This permit will require the submittal of the annual updates on the construction. Compliance with the water quality criteria for mercury is expected in the following permit cycle (2023-2028).

PART IV

STORMWATER POLLUTION PREVENTION PLAN

The discharger will develop, document and maintain a stormwater pollution prevention plan (SWPPP) pursuant to the requirements set forth in EPA guidance manuals titled "Stormwater Management

for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices", (EPA 832-R-92-006), September, 1992, and the "Summary Guidance", (EPA 833-R-92-002), October, 1992. The plan shall be signed by either a principal executive officer of a corporation, the owner or proprietor of a sole proprietorship, or a partner or general partner of a partnership. The SWPPP developed and implemented shall be site specific to the permitted facility with regard to the general terms and conditions outlined in the guidance manuals cited herein, and, at a minimum, shall contain the following items:

A. POLLUTANT SOURCES AND PATHWAYS

1. A site map outlining the individual stormwater drainage areas, existing structural control measures, surface water bodies, and sinkholes

2. A narrative description of significant materials (40 CFR 122.26) that are currently or in the past have been treated, stored, or disposed outside; materials management practices; existing structural and non-structural control measures to reduce pollutants; and a description of any stormwater treatment

3. A list of significant spills and leaks of toxic or hazardous pollutants at the facility that have taken place after the effective date of the permit

4. A prediction of direction of flow and the possible pollutants associated with each area of the plant that generates stormwater

5. A record of available sampling data describing pollutants in stormwater discharges

B. STORMWATER MANAGEMENT CONTROLS

1. Formulate a pollution prevention team with named individuals who will develop the stormwater pollution prevention plan and assist plant manager in its implementation.

2. Inventory types of materials handled and associated potential of release to stormwater. Evaluate the following for potential pollutant contribution: loading and unloading operations, outdoor storage and manufacturing activities, dust or particulate generating processes, and on-site waste disposal practices. Consider toxicity of chemicals, quantity of chemicals, and history of leaks or spills of toxic or hazardous pollutants.

3. Design a preventive maintenance program including inspection and maintenance of stormwater management devices and testing plant equipment and systems to uncover conditions, which could cause failures.

4. Maintain a clean, orderly facility.

5. Establish prevention and response procedures. Identify potential spill areas and drainage points. Specify material handling procedures and storage requirements. Identify spill cleanup procedures and provide to responsible personnel. Make available to responsible personnel the necessary equipment to implement cleanup at all times when the facility is in operation.

6. Include in the plan a narrative of traditional stormwater management practices, i.e., other than those that control the source of pollutants.

7. Identify areas of potentially high soil erosion and measures to limit erosion.

8. Train employees at all levels of responsibility in the components of the stormwater pollution prevention plan.

9. Identify qualified personnel to inspect equipment, plant areas, and material handling areas. Develop a tracking system to ensure corrective action and maintain records of inspections.

10. Designate a person in the plan who will keep records of spills or other discharges, inspections and maintenance activities, and information describing the quality and quantity of stormwater discharges.

11. Identify any non-stormwater discharges, and their source(s), associated with the stormwater outfalls. In the event non-stormwater discharges are discovered in combination with the stormwater discharges, the permittee must submit the appropriate EPA form(s) for the characterization of these non-stormwater discharges as warranted.

C. FACILITY INSPECTION

Responsible person(s) named in the plan will inspect the facility at least semi-annually for the accuracy of the plan and maps, adequate measures to reduce pollutants in stormwater runoff, and the need for additional controls. Records of these inspections will be maintained for a period of three years.

D. SPILL PREVENTION CONTROL AND COUNTERMEASURES

Stormwater management programs may reflect requirements for spill prevention control and countermeasures (SPCC) plans under section 311 of the CWA.

E. PLAN REVIEW AND UPDATE

The plan will be reviewed and updated, if necessary, by the facility at least annually. The plan and all records will be retained for at least three years after expiration of this permit.

F. PLAN IMPLEMENTATION

The plan should be developed and available for review within one year after permit coverage. Facilities should implement the management practices as soon as possible, but not later than two years after permit coverage. Where new construction is necessary to implement the management plan, a construction schedule should be included. Construction should be completed as soon as possible.

G. PLAN AVAILABILITY

The plan will be maintained by the permittee, on the site, or at a nearby office. Copies of the plan will be submitted to the Division of Water Resources within ten business days of any request.

H. PLAN MODIFICATION

The plan will be modified as required by the director of the Division of Water Resources.

I. MONITORING PLAN

The stormwater discharges will be monitored as required in Part I. Section A., Effluent Limits and Monitoring Requirements, applicable to stormwater outfalls. For each outfall monitored, the surface area and type of cover, for example, roof, pavement, grassy areas, gravel, will be identified.

J. SARA TITLE III, SECTION 313 PRIORITY CHEMICALS

The SWPPP shall include the following for those facilities subject to reporting requirements under SARA Title III, Section 313 for chemicals that are classified as Section 313 water priority chemicals:

1. In areas where Section 313 priority chemicals are stored, processed or otherwise handled, appropriate containment, drainage control and/or diversionary structures will be provided. At a minimum, one of the following preventive systems or its equivalent will be used:

    a. Curbing, culverting, gutters, sewers or other forms of drainage control

    b. Roofs, covers or other forms or protection to prevent storage piles from exposure to stormwater and wind

2. The plan will include a discussion of measures taken to conform with the following applicable guidelines:

    a. In liquid storage areas where stormwater comes into contact with any equipment, tank container, or other vessel used for Section 313 water priority chemicals,

        i. the tank or container must be compatible with Section 313 water priority chemical which it stores and

        ii. the liquid storage areas shall be operated to minimize discharge of Section 313 chemicals.

    b. Material storage areas for Section 313 water priority chemicals, other than liquids, will incorporate features that will minimize the discharge of Section 313 chemicals by reducing stormwater contact.

    c. Truck and rail car loading and unloading areas for Section 313 liquid chemicals will be operated to minimize discharges of chemicals. Appropriate measures may include

placement and maintenance of drip pans for use when making and breaking hose connections; a spill contingency plan; and/or other equivalent measures.

d. In plant areas where Section 313 chemicals are transferred, processed or handled, piping, processing equipment, and materials handling equipment will be operated so as to minimize discharges of chemicals. Piping and equipment must be compatible with chemicals handled. Additional protection, including covers and guards to prevent exposure to wind, pressure relief vents, and overhangs or door skirts to enclose trailer ends at truck loading docks, will be implemented. Visual inspections or leak tests will be conducted on overhead piping that conveys Section 313 chemicals.

e. For discharges from areas covered by parts 2a, 2b, 2c, or 2d,

   i. the drainage should be restrained by manually-operated valves or other positive means to prevent the discharge of a spill or excessive leakage,

   ii. a flapper-type drain valves cannot be used for drainage of containment units,

   iii. the final discharge of in-facility storm sewers should be equipped with a diversion system that could, in the event of an uncontrolled spill of a Section 313 chemical, return the spilled material to the facility, and

   iv. the records of the frequency and estimated volume (in gallons) of discharges from containment areas will be maintained.

f. Facility site runoff other than from areas covered by parts 2a, 2b, 2c, and 2d from which runoff could contain Section 313 chemicals will incorporate the necessary drainage or other control features to prevent discharge of spilled or improperly disposed material and to ensure the reduction of pollutants in runoff or leachate.

g. All areas of the facility will be inspected at specific intervals for leaks or conditions that could lead to discharges of Section 313 water priority chemicals or direct contact of stormwater with raw materials, intermediate materials, waste materials or products. Inspection intervals shall be specified in the plan and shall be based on design and operations experience. Corrective action will be taken promptly when a leak or condition, which could cause significant releases of a chemical is discovered. If corrective action can't be taken immediately, the unit or process will be shut down until the situation is corrected. When a leak or spill has occurred, the contaminated material(s) must be promptly removed and disposed in accordance with Federal, State, and local requirements and as described in the plan.

h. Facilities will have the necessary security systems to prevent accidental or intentionally entry, which could cause a discharge.

i. Facility employees and contract personnel that work in areas where SARA title III, Section 313 water priority chemicals are used or stored will be trained in and informed of preventive measures at the facility. Employee training shall be conducted at least once per year in the pollution control laws and regulations and in the stormwater pollution prevention plan. The plan shall designate a person who is accountable for spill prevention at the facility and who will set up the necessary spill emergency procedures and reporting requirements.

j. The SWPPP for a facility subject to SARA Title III, Section 313 requirements will be reviewed and certified by a responsible corporate officer in accordance to Part I.D.1 (Monitoring Results) of this permit. The corporate officer will certify the plan every three years thereafter, or as soon as practical, after significant modifications are made to the facility. Certification will in no way relieve the owner or operator of a facility covered by the plan of their duty to prepare and fully implement such plan.

3. "Section 313 water priority chemicals" means the following chemicals or chemical categories:

a. listed at 40 CFR 372.65 pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, also titled the Emergency Planning and Community Right-to-Know Act of 1986;

b. present at or above threshold levels at a facility subject to SARA Title III, Section 313 reporting requirements; and

c. meeting at least one of the following criteria:

i. listed in Appendix D of 40 CFR 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table V (certain toxic pollutants and hazardous substances);

ii. listed as a hazardous substance pursuant to section 311(b)(2)(A) of the CWA at 40 CFR 116.4; or

iii. designated as pollutants for which EPA has published acute or chronic toxicity criteria.

K. REPORTING

The effectiveness of this SWPPP will be investigated after the results of the storm water runoff monitoring have been obtained. The Alert values for storm water benchmarks are provided in Part V. At that time, should the results so dictate, the division maintains the authority to institute specific numeric limitations for the monitored parameters through a permit modification. Monitoring data will be submitted annually to address verification of SWPPP effectiveness, to define pollutant loadings, and to adjust future SWPPP monitoring efforts. The data shall be submitted to the TDEC in NetDMR no later than January 31 for the preceding calendar year. The storm water requirements in this permit issuance will be implemented beginning in the 2021 calendar year.

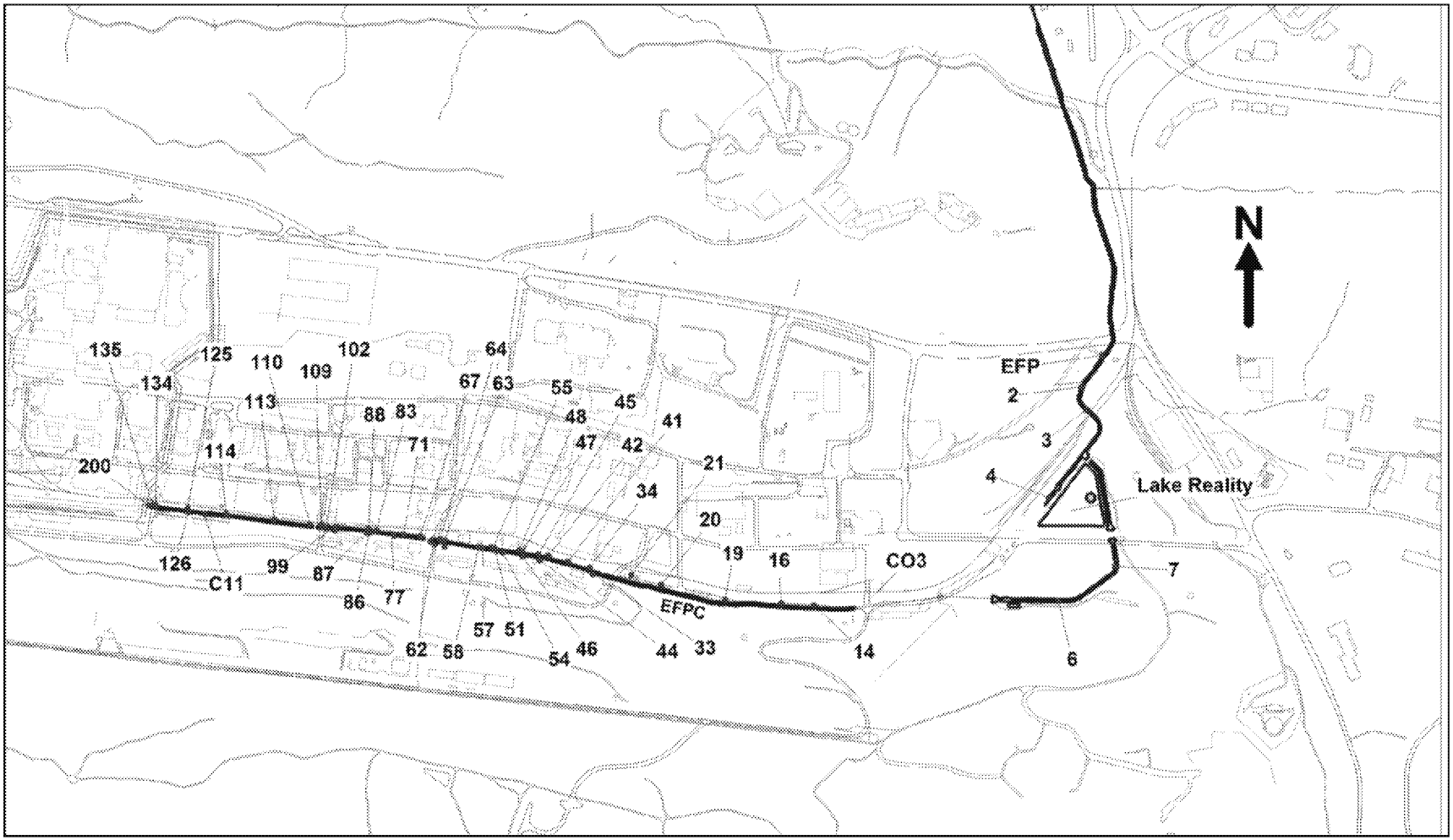
PART V

WATER QUALITY ALERT/BENCHMARK MONITORING PROGRAM

The permit will utilize Alerts to provide benchmarks for instream sampling and storm water. The storm water results shall be compared to the daily maximum concentrations which are acute values. The permittee shall review Alert exceedances to determine sources of pollutant loading that caused instream water quality to be exceeded. The results of the review will be submitted to the division as an attachment to the discharge monitoring report in NETDMR. The Alert values are provided in the below tables for reference. The facility will submit a report to the division detailing the methods and detection limits for the parameters in the below tables within six months of permit effective date.

EFPC and Unamed Tributarys to Clinch River		
	Monthly Average	Daily Maximum
PARAMETER	[ug/l]	[ug/l]
Copper	40.7	64.1
Chromium III	568.6	4371.2
Chromium VI	11.0	16.0
Nickel	189.4	1705.2
Cadmium	4.3	11.8
Lead	24.4	626.5
Silver	N/A	8.1
Zinc	646.3	641.1
Cyanide	5.2	22.0
Antimony	29376	58752.0
Arsenic	150.0	340.0
Selenium	3.1	20.0
Thallium	21.573	43.146

Bear Creek		
	Monthly Average	Daily Maximum
PARAMETER	[ug/l]	[ug/l]
Copper	62.5	102.7
Chromium III	856.5	6584.6
Chromium VI	11.0	16.0
Nickel	289.2	2603.6
Cadmium	6.2	18.8
Lead	41.4	1063.3
Silver	N/A	19.1
Zinc	987.4	979.4
Cyanide	5.2	22.0
Antimony	29376	58752.0
Arsenic	150.0	340.0
Selenium	3.1	20.0
Thallium	21.573	43.146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CO3
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C11
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EFPC
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EFP
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4
Lake Reality
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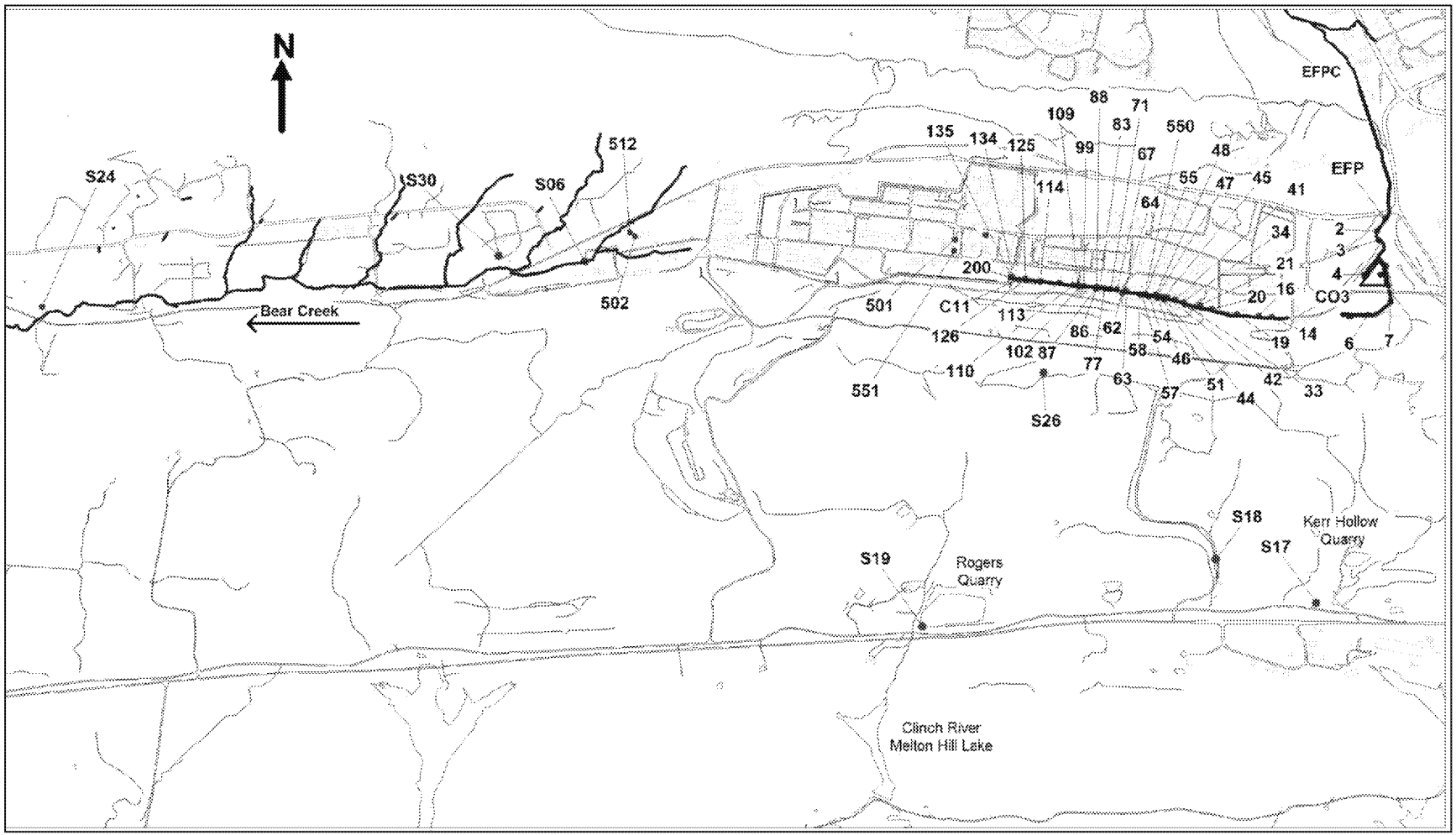
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S30
S06
512
502
Bear Creek
EFPC
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S17
Kerr Hollow Quarry
S19
Rogers Quarry
Clinch River
Melton Hill Lake

US Department of Energy
Y-12 National Security Complex
PERMIT NO. TN0002968
RATIONALE

May 31, 2021
Addendum prepared by: Miss Julie Harse, P.E., edited by Vojin Janjic

In addition to the responses to the comments received in the first public notice period, the following major items have been modified in the second draft permit for public notice. In addition to these major items, the formatting of the document has been reviewed with corrections being incorporated as necessary.

Second Draft Major Changes	
Change Number	Description
1	The facility was issued a notice of violation for a major fish kill that lasted from July 11, 2018 to October 29, 2018 in East Fork Poplar Creek. Additionally, there is a concern as to the effect on East Fork Poplar Creek from the diversion the wastewater from Outfalls 200, 134, and 135 to a downstream section of the creek. The concentrations needed to exceed water quality criteria are partially based on the instream hardness. The hardness concentrations at this facility are elevated beyond the division's default hardness values. The sampling of stormwater and instream monitoring will have site specific Alert values based on the hardness of the water. An exceedance of an Alert value is not a permit violation as long as the parameter was sampled and reported in the discharge monitoring report. Instream water quality concentrations have been calculated based on an average hardness of 171 mg/L for East Fork Poplar Creek and an average hardness of 282 mg/L in Bear Creek. The tables with the calculations are on the following pages. These values are utilized in the permit for both enforceable limits and action levels for the point source discharges and instream monitoring points.
2	The monitoring table and effluent limitations for Outfall 200 has been added to the permit. Since the facility no longer adds supplemental water to EFPC from the Clinch River, the source of water in the stream during low flow conditions is the wastewater discharged from Outfalls 200, 201, MTF and the cooling water outfalls. The point sources must meet the water quality concentrations at the end of pipe. The parameters at Outfalls 200, 201 and MTF are based in part on the chemicals that are sampled at Internal Monitoring Points 501, 502, 512, and 551. The basis for the limits at the internal monitoring points is anti-backsliding and/or effluent limitations guidelines from 40 CFR Part 433 Subpart A. The basis for the limits at Outfall 200 are the following: a. The fish and aquatic life standard for pH is a range of 6.0 to 9.0 SU. b. The oil and grease standard of 10 mg/L monthly average and 15 mg/L daily maximum is a technology based treatability standard. c. The application indicates that the wastewater is treated with ammonium bisulfite. The permit limits are based on ammonia toxicity values for a pH of 7.5 at a summer temperature of 25 degrees and 15 degrees in the winter. The calculations are provided on the following page with the latest ammonia criteria. d. The water quality concentrations for cyanide are 0.0052 mg/L chronic and 0.022 mg/L acute. The application data for cyanide at Internal Monitoring Point 502 West End

	Treatment Facility stated <0.0132 mg/L average and 0.025 mg/L maximum based on eight samples. Additionally, the permit limit at IMP 502 of 1.2 mg/L is well above the water quality value. Outfall 200's application states that cyanide is not present and was not sampled. The sampled concentrations and detection limits utilized at IMP 502 and the lack of sampling at Outfall 200 create the reasonable potential to violate water quality criteria. Outfall 200 will have a cyanide limit of 0.0052 mg/L monthly average and 0.022 mg/L daily maximum. e. The water quality concentrations for cadmium are 0.0014 mg/L chronic and 0.0134 mg/L acute. Outfall 200 application values for cadmium are <0.0024 mg/L average and 0.0174 mg/L based on fifty-one samples. Method 200.8 has a detection limit of 0.001 mg/L. The sampling data's detection limits does not eliminate the reasonable potential to violate water quality criteria, therefore the permit will have a cadmium limit of 0.0014 mg/L monthly average and 0.0134 mg/L daily maximum. f. Outfall 200's application values for total chromium were <0.0051 mg/L average and 0.020 mg/L maximum based on fifty-one samples. The maximum sampled value exceeds the acute water quality value for hexavalent chromium (0.016 mg/L). The permit will require the reporting of total and trivalent chromium. There will be a hexavalent chromium limit of 0.016 mg/L. g. The water quality concentration for silver is 0.0081 mg/L acute. Outfall 200 application values for silver are <0.0033 mg/L average and <0.020 mg/L based on fifty-one samples. Method 200.8 has a detection limit of 0.001 mg/L for silver. The detection limits utilized in the sampling data do not eliminate the reasonable potential to violate water quality criteria therefore the permit will have a silver limit of 0.0081 mg/L daily maximum. h. The water quality concentrations for selenium are 0.0031 mg/L chronic and 0.020 mg/L acute. Outfall 200 application values for selenium are <0.035 mg/L average and 0.2 mg/L based on fifty-one samples. Method 200.8 has a detection limit of 0.0005 mg/L. The sampling data detection limits does not eliminate the reasonable potential to violate water quality criteria therefore the permit will have a selenium limit of 0.005 mg/L monthly average and 0.020 mg/L daily maximum. i. The facility utilizes city potable water which is chlorinated and subsequently dechlorinated with ammonium bisulfite. The permit limits for chlorine are the water quality criteria of 0.011 mg/L chronic and 0.019 mg/L acute. j. The mercury that is discharged from Outfall 200 is due to legacy activities. The facility is currently constructing a mercury treatment system with an effluent goal of 0.051 ug/L. The permit requirement will be the reporting of mercury. k. At low flow conditions the facility discharges out of Outfall 200 to essentially a dry stream. Because the stream will have only wastewater, the biomonitoring limit will be 100%. l. All other parameters are report only. The parameters are included to quantify the pollutant loading at the point where the treated wastewater enters waters of the state. At this time the division does not have water quality criteria for these parameters.
3	The facility did not submit an application for Outfall 520 because the outfall has been eliminated. The monitoring requirements and references to Outfall 520 have been removed from the permit.
4	The list of abbreviations has been added to the permit.
5	The standard stormwater pollution prevention plan language has been added to the permit. The narrative stormwater sampling from the first draft permit has been converted to reportable XML tables. The acute values have been added as Alerts to provide a benchmark relative to acute toxicity.

6	The section titled "Information on once through cooling water forecast" has been removed from the permit.
7	The parameters for the instream monitoring and stormwater monitoring have been updated to be consistent with the parameters required at Outfall 200.
8	It is expected during the course of this permit cycle that the mercury treatment facility will be under construction. Wastewater from Outfalls 200, 134, and 135 will be diverted and discharged to a downstream section of East Fork Poplar Creek thus affecting the pollutant concentrations and flow rates in the stream. Additionally, storm events mobilize pollutants which are discharged to East Fork Poplar Creek, Bear Creek, and unnamed tributaries to the Clinch River. The new permit incorporates non-enforceable Alert values to assist the facility staff in determining if the instream concentrations create the potential to violate water quality.
9	A review of the water treatment chemicals utilized at the facility indicates that some of the chemicals such as SPECTRUS OX101 have low concentrations that will create toxicity in aquatic life. The draft permit will include language that requires the facility to document the chemical doses relative to the toxicity concentrations in the MSDS.
10	Upon completion of the mercury treatment system, there will be a need at peak flows to characterize any wastewater that is not diverted to the treatment system and discharged over the weir to East Fork Poplar Creek. The sampling location will be at instream monitoring point C11. The sampling point will be designated as Outfall 201 in the discharge monitoring reports.
11	The facility has a temporary concrete mixing plant in the storm water drainage area of S30. The concrete plant is a temporary plant that supports the construction of the uranium processing facility. The monitoring requirements for this permit will be based on the TMSP monitoring requirements for ready mix plants. During the next permit renewal, the parameters will be reevaluated based on the industrial activities at that time in the drainage area.
12	The facility's mercury discharges are attributed to historical activities that are regulated under CERCLA. While the Division of Water Resources (DWR) has mercury water quality criteria for surface water, the regulatory requirements are driven by the Division of Remediation (DoR). In the late nineties, the facility performed a risk assessment to determine the cleanup levels for mercury. The results of the study are in the CERCLA record of determination dated May 2002 (DOE/OR/01-1951&D3). The items of note regarding the study are the following: 1. The risk assessment looked at potential receptors such as the onsite worker and the offsite residential individual. 2. The risk assessment also developed at site specific bioaccumulative factor for the consumption of fish. The site specific bioaccumulative factor resulted in a recreational concentration of 0.200 ug/L which is higher than the DWR criterion of 0.051 ug/L (Page 2-51 and 2-52 of DOE/OR/01-1951&D3). 3. The risk assessment determined that the nature of the activities on-site would remain industrial. Therefore the residential individual was not considered as an on-site receptor. 4. The new mercury treatment system is designed to meet the DWR criterion of 0.051 ug/L. The current version of the record of determination from the division of remediation for mercury at this site has the following cleanup goals. The DWR standards are provided for reference. On-site Cleanup Levels

		Fish and Aquatic Life Chronic (ug/L)	Fish and Aquatic Life Acute (ug/L)	Organisms (ug/L)	Organisms/Water (ug/L)	Drinking Water Criteria (ug/L)	Annual
	DWR	0.770	1.4	0.051	0.051	2.0	NA
	DR		2.0 (Total Mercury) 1.4 (Dissolved Mercury)	NA	NA	NA	1 kg/yr Total Mercury

Off-site Cleanup Levels at EFP Station 17						
	Fish and Aquatic Life Chronic (ug/L)	Fish and Aquatic Life Acute (ug/L)	Organisms (ug/L)	Organisms/Water (ug/L)	Drinking Water Criteria (ug/L)	Annual
DWR	0.770	1.4	0.051	0.051	2.0	NA
DR Interim	0.200	0.200	0.200	0.200	0.200	NA
DR Final	0.051	0.051	0.051	0.051	0.051	NA

13	The application contained numerous non-detect sample results that did not utilize sufficiently sensitive sampling methods (See below tables). The new permit will require the facility to submit a report detailing the sampling methods and detection limits.
14	The WETF Life Extension Project was related to the maintenance of a clarifier. Since the standard language requires the proper operation and maintenance of facilities, the annual report requirement on page 22 will be deleted.

Summer Ambient Water Quality Criteria for Ammonia (2018 Update)

pH	**7.5**	SU
Temperature	**25**	deg C

25.0000 MAX Expression

CMC [mg N/L]
6.10

The one-hour average concentration of total ammonia nitrogen (in mg N/L) shall not exceed the CMC.

CCC [mg N/L]
1.01

The 30-day average concentration of total ammonia nitrogen (in mg N/L) shall not exceed the CCC. In addition, the highest four-day average within the 30-day period shall not exceed 2.5 times the CCC.

Winter Ambient Water Quality Criteria for Ammonia (2018 Update)

pH	**7.5**	SU
Temperature	**15**	deg C

15.0000 MAX Expression

CMC [mg N/L]
13.28

The one-hour average concentration of total ammonia nitrogen (in mg N/L) shall not exceed the CMC.

CCC [mg N/L]
1.92

The 30-day average concentration of total ammonia nitrogen (in mg N/L) shall not exceed the CCC. In addition, the highest four-day average within the 30-day period shall not exceed 2.5 times the CCC.

East Fork Poplar Creek Action Levels

WATER QUALITY CALCULATIONS FOR METALS AND OTHER TOXIC SUBSTANCES
WATER QUALITY BASED EFFLUENT CALCULATIONS
OUTFALL 001

FACILITY: DOE Y-12 PERMIT #: TN0002968 DATE: 9/30/2019

Stream (7Q10) [MGD]	Stream (30Q5) [MGD]	Waste Flow [MGD]	Ttl. Susp. Solids [mg/l]	Hardness (as CaCO3) [mg/l]	Margin of Safety [%]
0.000	0.000	1.000	10	171	100

	Stream Bckgrnd. Conc.	Fish/Aqua. Life (F & AL) WQC lab conditions		Fraction Dissolved	F & AL- instream allowable ambient conditions (Tot)		Human Health Water Quality Criteria In-Stream Criteria		
		Chronic	Acute		Chronic	Acute	Organisms	Water/Organisms	DWS
PARAMETER	[ug/l]	[ug/l]	[ug/l]	[Fraction]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]
Copper	0.000	14.164	22.279	0.348	40.7	64.1	N/A		
Chromium III	0.000	115.008	884.135	0.202	568.6	4371.2	N/A		
Chromium VI	0.000	11.000	16.000	1.000	11.0	16.0	N/A		
Chromium, Total	0.000	N/A	N/A	N/A	N/A	N/A	N/A		
Nickel	0.000	81.879	737.190	0.432	189.4	1705.2	4600.0		
Cadmium	0.000	1.075	2.975	0.252	4.3	11.8	N/A		
Lead	0.000	4.490	115.218	0.184	24.4	626.5	N/A		
Mercury (T)	0.000	0.770	1.400	1.000	0.8	1.4	0.051		
Silver	0.000	N/A	8.094	1.000	N/A	8.1	N/A		
Zinc	0.000	186.128	184.617	0.288	646.3	641.1	26000.0		
Cyanide	0.000	5.200	22.000	1.000	5.2	22.0	140.0		
Antimony	0.000	N/A	N/A	N/A	N/A	N/A	29376		
Arsenic	0.000	150.0	340.0	1.000	150.0	340.0	459.0		
Beryllium	0.000	N/A	N/A	N/A	N/A	N/A			
Selenium	0.000	5.0	20.0	1.000	3.1	20.0			
Thallium	0.000	N/A	N/A	N/A	N/A	N/A	21.6		

Bear Creek Action Levels

WATER QUALITY CALCULATIONS FOR METALS AND OTHER TOXIC SUBSTANCES
WATER QUALITY BASED EFFLUENT CALCULATIONS
OUTFALL 001

FACILITY: DOE Y-12 PERMIT #: TN0002968 DATE: 7/31/2019

Stream (7Q10) [MGD]	Stream (30Q5) [MGD]	Waste Flow [MGD]	Ttl. Susp. Solids [mg/l]	Hardness (as CaCO3) [mg/l]	Margin of Safety [%]
0.000	0.000	1.000	10	282	100

	Stream Bckgrnd. Conc.	Fish/Aqua. Life (F & AL) WQC lab conditions		Fraction	F & AL- instream allowable ambient conditions (Tot)		Human Health Water Quality Criteria		
							In-Stream Criteria		
		Chronic	Acute	Dissolved	Chronic	Acute	Organisms	Water/Organisms	DWS
PARAMETER	[ug/l]	[ug/l]	[ug/l]	[Fraction]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]
Copper	0.000	21.719	35.694	0.348	62.5	102.7	N/A		
Chromium III	0.000	173.244	1331.829	0.202	856.5	6584.6	N/A		
Chromium VI	0.000	11.000	16.000	1.000	11.0	16.0	N/A		
Chromium, Total	0.000	N/A	N/A	N/A	N/A	N/A	N/A		
Nickel	0.000	125.017	1125.577	0.432	289.2	2603.6	4600.0		
Cadmium	0.000	1.564	4.746	0.252	6.2	18.8	N/A		
Lead	0.000	7.620	195.539	0.184	41.4	1063.3	N/A		
Mercury (T)	0.000	0.770	1.400	1.000	0.8	1.4	0.051		
Silver	0.000	N/A	19.136	1.000	N/A	19.1	N/A		
Zinc	0.000	284.374	282.066	0.288	987.4	979.4	26000.0		
Cyanide	0.000	5.200	22.000	1.000	5.2	22.0	140.0		
Antimony	0.000	N/A	N/A	N/A	N/A	N/A	29376		
Arsenic	0.000	150.0	340.0	1.000	150.0	340.0	459.0		
Beryllium	0.000	N/A	N/A	N/A	N/A	N/A			
Selenium	0.000	5.0	20.0	1.000	3.1	20.0			
Thallium	0.000	N/A	N/A	N/A	N/A	N/A	21.6		

Application Data

The values highlighted in yellow have detection limits that are not sufficiently sensitive enough for the reasonable potential procedures. The values highlighted in red are detectable concentrations that exceed water quality criteria.

	Outfall Number	002	003	004	006	007	010	014	016	017	019	020	021	033	034
East Fork Poplar Creek	Chronic WQ														
Antimony	29.3760	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2		< 0.0019	<0.001		< 0.2	< 0.2	<0.001	< 0.2	< 0.2
Arsenic	0.1500	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2		< 0.0036	<0.002		< 0.2	< 0.2	<0.002	< 0.2	< 0.2
Beryllium	NA	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005		< 0.0003	<0.0002		< 0.0005	< 0.0005	<0.0002	< 0.0005	< 0.0005
Cadmium	0.0043	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		0.0011	<0.0002		< 0.01	< 0.01	<0.0003	< 0.01	< 0.01
Chromium	0.0110	<0.02	<0.02	<0.02	<0.02	<0.02		<0.0068	<0.002		<0.02	<0.02	<0.0078	<0.02	<0.02
Copper	0.0407	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02			<0.0042		< 0.02	< 0.02	0.0171	< 0.0211	< 0.02
Lead	0.0244	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		<0.0097	<0.0026		< 0.1	< 0.1	<0.0063	< 0.1	< 0.1
Mercury	0.000051	<0.000053	<0.000053			<0.000053			<0.000055		<0.0003		<0.0001		
Nickel	0.1894	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		< 0.0066	<0.0021		< 0.05	< 0.05	0.0037	< 0.05	< 0.05
Selenium	0.0031	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2		<0.0072	<0.004		< 0.2	< 0.2	<0.004	< 0.2	< 0.2
Silver	NA	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02		<0.0004	<0.0002		< 0.02	< 0.02	<0.0003	< 0.02	< 0.02
Thallium	0.0216	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2		<0.0004	<0.0002		< 0.2	< 0.2	<0.0002	< 0.2	< 0.2
Zinc	0.6463	< 0.05	< 0.05	< 0.0673	< 0.05	< 0.05		0.1504	0.0305		< 0.05	< 0.05	0.0893	< 0.05	< 0.05
Cyanide	0.0052														

	Outfall Number	002	003	004	006	007	010	014	016	017	019	020	021	033	034
East Fork Poplar Creek	Acute WQ														
Antimony	58.7520	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2		0.005	<0.001		< 0.2	< 0.2	<0.001	< 0.2	< 0.2
Arsenic	0.3400	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2		<0.01	<0.002		< 0.2	< 0.2	<0.002	< 0.2	< 0.2
Beryllium	NA	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005		<0.0005	<0.0002		< 0.0005	< 0.0005	<0.0002	< 0.0005	< 0.0005
Cadmium	0.0118	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		0.0018	0.0003		< 0.01	< 0.01	0.0004	< 0.01	< 0.01
Chromium	0.0160	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02		0.0127	<0.002		< 0.02	< 0.02		<0.02	<0.02
Copper	0.0641	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02			0.0053		< 0.02	< 0.02	0.0441	0.0234	< 0.02
Lead	0.6265	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		0.0184	0.0034		< 0.1	< 0.1	0.0117	< 0.1	< 0.1
Mercury	0.000102	<0.000054	<0.000053		0.0001	<0.000053			0.000061			0.000088			0.000092
Nickel	1.7052	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		0.0163	0.0022		< 0.05	< 0.05	0.0048	< 0.05	< 0.05
Selenium	0.0200	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2		<0.02	<0.004		< 0.2	< 0.2	<0.004	< 0.2	< 0.2
Silver	0.0081	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02		<0.001	<0.0002		< 0.02	< 0.02	0.0006	< 0.02	< 0.02
Thallium	0.0432	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2		<0.001	<0.0002		< 0.2	< 0.2	<0.0002	< 0.2	< 0.2
Zinc	0.6411	< 0.05	< 0.05	0.102	< 0.05	< 0.05		0.294	0.0444		< 0.05	< 0.05	0.0179	< 0.05	< 0.05
Cyanide	0.0220														

BDL above WQ
DL above WQ

	Outfall Number	041	042	044	045	046	047	048	054	055	057	058	062	063	064
East Fork Poplar Creek	Chronic WQ														
Antimony	29.3760	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.0408	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Arsenic	0.1500	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.0416	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Beryllium	NA	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	<0.0003	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cadmium	0.0043	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	<0.0022	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chromium	0.0110	<0.02	<0.0238	<0.02	<0.02	<0.02	<0.02	<0.0076	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	0.0407	< 0.02	< 0.0261	< 0.02	< 0.02	< 0.02	< 0.02	<0.0258	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.0205	0.0205
Lead	0.0244	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.0252	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mercury	0.000051		<0.000053						<0.000053	<0.000053	<0.000053				<0.000053
Nickel	0.1894	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.0124	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Selenium	0.0031	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.0432	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Silver	NA	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	<0.0042	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Thallium	0.0216	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.0402	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Zinc	0.6463	0.129	< 0.1085	0.0638	0.074	<0.05	0.0961	<0.079	<0.05	0.0856	<0.0585	0.118	0.0529	0.14	0.0682
Cyanide	0.0052														

	Outfall Number	041	042	044	045	046	047	048	054	055	057	058	062	063	064
East Fork Poplar Creek	Acute WQ														
Antimony	58.7520	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Arsenic	0.3400	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Beryllium	NA	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cadmium	0.0118	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chromium	0.0160	<0.02		<0.02	<0.02	<0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	0.0641	< 0.02	0.0353	< 0.02	< 0.02	< 0.02	0.0382	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.0205	0.0205
Lead	0.6265	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mercury	0.000102		<0.000053	0.0001	0.0000895	0.000053		0.00007	<0.000053	<0.000053	<0.000053		0.0001		<0.000053
Nickel	1.7052	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Selenium	0.0200	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Silver	0.0081	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Thallium	0.0432	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Zinc	0.6411	0.129	0.189	0.0638	0.074	<0.05	0.141	0.0961	<0.05	0.0856	0.0755	0.118	0.0529	0.14	0.0682
Cyanide	0.0220														

BDL above WQ
Hit above WQ

	Outfall Number	067	071	083	086	087	088	099	102	109	110	113	114	125	126
East Fork Poplar Creek	Chronic WQ														
Antimony	29.3760	<0.0017	<0.1337	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.0673	<0.001	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Arsenic	0.1500	<0.002	<0.0134	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.068	<0.002	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Beryllium	NA	<0.0002	<0.0004	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	<0.0003	<0.0002	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cadmium	0.0043	<0.001	<0.0067	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	<0.0035	<0.0002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chromium	0.0110	<0.0055	<0.014	<0.02	<0.02	<0.02	<0.1687	<0.02	<0.008	<0.0026	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	0.0407	[redacted]	<0.0145	< 0.02	< 0.02	< 0.02	< 0.0237	< 0.02	<0.0118	0.0072	< 0.02	< 0.02	< 0.0277	< 0.02	< 0.02
Lead	0.0244	<0.0112	<0.0671	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.034	<0.0023	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mercury	0.000051	<0.000053	<0.000053	[redacted]	[redacted]	[redacted]	<0.000053	<0.000053	<0.000053	<0.000066	<0.000056	<0.000053	[redacted]	[redacted]	<0.000053
Nickel	0.1894	<0.0056	<0.034	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.0183	<0.0027	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Selenium	0.0031	<0.004	<0.1347	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.0693	<0.004	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Silver	NA	<0.0002	<0.0134	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	<0.0068	<0.0002	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Thallium	0.0216	<0.0002	<0.1334	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.0668	<0.0002	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Zinc	0.6463	0.2893	0.057	<0.05	<0.05	0.102	<0.198	<0.05	<0.0501	0.0634	<0.05	<0.05	<0.0733	<0.05	<0.0897
Cyanide	0.0052														

	Outfall Number	067	071	083	086	087	088	099	102	109	110	113	114	125	126
East Fork Poplar Creek	Acute WQ														
Antimony	58.7520	0.0023	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.001	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Arsenic	0.3400	<0.002	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.002	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Beryllium	NA	<0.0002	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	<0.0002	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cadmium	0.0118	0.0025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	<0.0002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chromium	0.0160	0.011	<0.02	<0.02	<0.02	<0.02	[redacted]	<0.02	<0.02	0.0045	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	0.0641	[redacted]	0.02	< 0.02	< 0.02	< 0.02	0.0312	< 0.02	0.02	0.0117	< 0.02	< 0.02	0.0431	< 0.02	< 0.02
Lead	0.6265	0.0217	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.0051	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mercury	0.000102	<0.000054	<0.000053	[redacted]	[redacted]	[redacted]	<0.000053	<0.000053	<0.000054	0.0001	<0.000056	<0.000053	0.000076	0.000081	<0.000053
Nickel	1.7052	0.0115	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.0035	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Selenium	0.0200	<0.004	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.004	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Silver	0.0081	0.0003	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.0003	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Thallium	0.0432	<0.0002	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.0002	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Zinc	0.6411	0.595	0.0735	<0.05	<0.05	0.102	0.439	<0.05	0.067	0.117	<0.05	<0.05	0.12	<0.05	0.126
Cyanide	0.0220														

BDL above WQ
Hit above WQ

	Outfall Number	134	135	200	C11	EFP	S17	S18	S19
East Fork Poplar Creek	Chronic WQ								
Antimony	29.3760	< 0.2	<0.0012	<0.0323	<0.0112	<0.0143	<0.0414	<0.0871	<0.0508
Arsenic	0.1500	< 0.2	<0.002	<0.0332	<0.0122	<0.0152	<0.0428	<0.0889	<0.0527
Beryllium	NA	< 0.0005	<0.0002	<0.0003	<0.0002	<0.0002	<0.0004	<0.0005	<0.0003
Cadmium	0.0043	< 0.01	<0.0003	<0.0024	<0.0012	<0.001	<0.0023	<0.0046	<0.0027
Chromium	0.0110	<0.02	<0.004	<0.0051	<0.0032	<0.0033	<0.0068	<0.0146	<0.0065
Copper	0.0407	< 0.02	0.0248	<0.0103	<0.008	<0.0051	<0.0134	<0.0148	<0.0065
Lead	0.0244	< 0.1	<0.0119	<0.0172	<0.0086	<0.009	<0.0217	<0.0477	<0.0258
Mercury	0.000051	<0.000050			<0.0006		<0.000053	<0.000053	<0.000053
Nickel	0.1894	< 0.05	0.0059	<0.0117	<0.0058	<0.0055	<0.0128	<0.0256	<0.014
Selenium	0.0031	< 0.2	<0.004	<0.035	<0.0142	<0.0171	<0.0456	<0.0911	<0.053
Silver	NA	< 0.02	<0.0002	<0.0033	<0.0012	<0.0015	<0.0121	<0.0088	<0.0052
Thallium	0.0216	< 0.2	<0.0002	<0.0316	<0.0104	<0.0135	<0.0403	<0.086	<0.0502
Zinc	0.6463	<0.05	0.191	<0.0439	<0.0406	<0.0247	<0.0379	0.1295	<0.014
Cyanide	0.0052								

	Outfall Number	134	135	200	C11	EFP	S17	S18	S19
East Fork Poplar Creek	Acute WQ								
Antimony	58.7520	< 0.2	0.0015	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Arsenic	0.3400	< 0.2	<0.002	< 0.2	< 0.2	< 0.2	<0.2	0.2	< 0.2
Beryllium	NA	< 0.0005	<0.0002	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0008	< 0.0005
Cadmium	0.0118	< 0.01	0.0005	0.0174	0.01	0.01	<0.01	0.01	< 0.01
Chromium	0.0160	<0.02	0.0057	0.02	0.02	0.02	<0.02	0.0212	<0.02
Copper	0.0641	< 0.02	0.0359	0.0308	0.036	0.02	0.02	0.02	< 0.02
Lead	0.6265	< 0.1	0.0245	0.1	0.1	0.1	0.1	0.1	< 0.1
Mercury	0.000102	<0.000050					<0.00006	<0.000053	<0.000053
Nickel	1.7052	< 0.05	0.0082	0.05	0.05	0.05	<0.05	0.05	< 0.05
Selenium	0.0200	< 0.2	<0.004	0.2	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Silver	0.0081	< 0.02	<0.0002	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Thallium	0.0432	< 0.2	<0.0002	< 0.2	< 0.2	< 0.2	<0.2	0.2	< 0.2
Zinc	0.6411	<0.05	0.275	0.281	0.148	0.0534	0.05	0.22	0.05
Cyanide	0.0220								

BDL above WQ
Hit above WQ

	Outfall Number	S06	S24	S30
Bear Creek	Chronic WQ			
Antimony	29.3760	<0.0258	<0.0508	
Arsenic	0.1500	<0.0266	<0.0515	
Beryllium	NA	<0.0002	<0.0003	
Cadmium	0.0062	<0.0033	<0.0027	
Chromium	0.0110	<0.0041	<0.0065	
Copper	0.0625	<0.0041	<0.0065	
Lead	0.0414	<0.0133	<0.0273	
Mercury	0.000051	<0.000054	<0.000053	
Nickel	0.2892	<0.0169	<0.015	
Thallium	0.0216	<0.0283	<0.053	
Selenium	0.0031	<0.0027	<0.0052	
Silver	NA	<0.0252	<0.0502	
Zinc	0.9874	<0.0159	<0.0142	
Cyanide	0.0052	<0.0875		

	Outfall Number	S06	S24	S30
Bear Creek	Acute WQ			
Antimony	58.7520	< 0.2	< 0.2	
Arsenic	0.3400	< 0.2	< 0.2	
Beryllium	NA	< 0.0005	< 0.0005	
Cadmium	0.0188	0.01	0.01	
Chromium	0.0160	<0.02	<0.02	
Copper	0.1027	0.02	< 0.02	
Lead	1.0633	<0.1	0.1	
Mercury	0.000102	<0.000056	<0.000053	
Nickel	2.6036	0.05	0.05	
Thallium	0.0431	< 0.2	< 0.2	
Selenium	0.0200	< 0.02	< 0.02	
Silver	0.0191	< 0.2	< 0.2	
Zinc	0.9794	0.05	0.05	
Cyanide	0.0220	<0.125		

BDL above WQ
Hit above WQ

The first draft permit was public noticed on November 14, 2017. The permit writer Robert Alexander received an email from Ralph Hutchison on December 7, 2017 requesting a public hearing. Mr. Hutchison is a coordinator for the Oak Ridge Environmental Peace Alliance. A public hearing was conducted on February 8, 2018 at 761 Emory Valley Road, Oak Ridge, Tennessee 37830. The power point presentation given by Robert Alexander and the sign-in list are provided in the division's public data viewer at the following link:

http://environment-online.tn.gov:8080/pls/enf_reports/f?p=9034:34051:::NO:34051:P34051_PERMIT_NUMBER:TN0002968

The only comment made during the public hearing was by Zachariah Seiden who is employed by the city of Oak Ridge. His comment simply stated that the city chlorinates the drinking water. Since no other verbal comments were made at the public hearing, this addendum will address the written comments that were submitted during the public notice period. Written comments were submitted by the parties listed below. The division's response is provided on the following pages.

1. Department of Energy National Nuclear Security Administration Production Office - Letter dated December 12, 2017.
2. Environmental Protection Agency – Letter dated December 14, 2017.
3. Department of Energy Oak Ridge Office of Environmental Management – Letter date December 18, 2017.

Comment Letter #1 Department of Energy National Nuclear Security Administration Production Office	
Comment Number	Comment
1	General - Page numbering indicates there are 38 total pages in the permit. Actual page count is 39.
Response	The page numbering has been corrected.
2	Cover Sheet for Permit - The Discharger is noted as USDOE-Oak Ridge Y-12 National Security Complex and USDOE Oak Ridge Operations. Recommend deletion of and USDOE Oak Ridge Operations since the Oak Ridge Operations Office no longer has responsibilities at Y-12.
Response	The application stated that the owner is United States Department of Energy National Nuclear Security Administration. The permit will reflect this name throughout the document.
3	Page 7, Outfall C11 Monitoring Requirements, Code 01027 - It is recommended the *monthly average limit for total cadmium* be eliminated which only have daily maximum limits. This would be consistent with other metals required to be monitored at this location. Additionally, since monitoring is required only once per month, there should be no need for a monthly average limit.
Response	The permit application cadmium sampling results were provided for a data set of 39 analysis. The average concentration was 0.0012 mg/L a and the maximum concentration was 0.010 mg/L for the instream monitoring point. The water quality criteria for cadmium would be 0.0014 mg/L chronic and 0.0134 mg/L acute. The instream monitoring points will have Alerts but not enforceable limits to assist staff in determining if an increase in concentration has the potential to violate water quality.
4	Page 7, Outfall C11 Monitoring Requirements, Code 50050 - It is recommended the requirement to report a *calculated flow* be eliminated. There are no requirements to report contaminant loadings; therefore flow estimates are not needed. Additionally, this is an

	instream location with a rocky creek bed and bank and accurate flow measurements are difficult to obtain. Flow at this location has historically been measured in order to provide needed data to submit a calculated flow at Outfall 200. With the exception of stormwater sampling, flow at Outfall 200 is no longer required.
Response	The initial flow determinations will involve measuring the cross sectional area, velocity, and the height of the water in the stream. Once the facility has a data set that provides a direct relationship between flow rate and the height of the water, the facility will only need to measure the height of the water. The monitoring requirement will remain in the permit.
5	Page 7, Outfall C11 Monitoring Requirements, Code TRP3B - It is recommended that the requirement for the 7 Day Toxicity Testing using both the *Ceriodaphnia* and the *Pimephales* using a 100% WET be modified to reflect the WET base flow percentage recently used to modify the metals values for this outfall which is now less than 100%.
Response	Biomonitoring is not typically required at instream monitoring points. The final permit will not include biomonitoring at this location for C11. Biomonitoring will be required for Outfall 201.
6	Page 8, Outfall 109 Permit Limits and Monitoring Requirements, Codes 50050 & 50060 - For consistency, it is recommended the frequency for flow and *total residual chlorine* be changed to *quarterly*. Additionally, the sample type for flow should be *estimate*.
Response	The division agrees that the flow type should be "estimate" instead of "grab". The monitoring frequency should be identical for all monitored parameters. A review of the other cooling water outfalls indicates that monthly was the intended monitoring frequency. All parameters will be monitored on a monthly basis.
7	Page 8, Once - through Cooling Water Outfall 034, Description - Description should reference Outfall 034 instead of Outfall 021.
Response	The description will be corrected in the final permit.
8	Page 8, Once - Through Cooling Water Outfall 034, Description - 50050, 50060, 00610, and 00610 - It is recommended a *sampling frequency* of *quarterly* be required instead of monthly for consistency.
Response	The monitoring frequency should be identical for all monitored parameters. A review of the other cooling water outfalls indicates that monthly was the intended monitoring frequency. All parameters will be monitored on a monthly basis.
9	Page 9, Once - through Cooling Water Outfalls, Description-Description should reference Outfalls *102, 99, 88, 83, 71, 67, 63, 48, 47, 42, 14* instead of Outfall *021*.
Response	The references have been corrected.
10	Page 10, Station C03 Monitoring Requirements, Description - Description should reference Outfall *C03* instead of Outfall *C11*.
Response	The description will be corrected in the final permit.
11	Page 11, Station C03 Monitoring Requirements, Code 50050 - It is recommended the requirement to report *flow estimate* be eliminated. There are no requirements to report contaminant loadings; therefore flow estimates are not needed. Additionally, this creek location, just downstream from the Mercury Treatment Facility (MTF) discharge point, is a rocky creek bed and bank and accurate flow measurements are difficult to obtain.
Response	The initial flow determinations will involve measuring the cross sectional area, velocity, and the height of the water in the stream. Once the facility has a data set that provides a direct relationship between flow rate and the height of the water, the facility will only need to measure the height of the water. Since the division's water quality calculations are performed at low flow conditions, the characterization of the flow is necessary to determine the amount of dilution in the stream. The monitoring requirement will remain in the permit.
12	Page 21, Section E. 2., Updated Water Balance, Third paragraph - Recommend results of the initial study be due *no later than July 31, 2019* instead of *15 months from the permit effective date*. Assuming the permit is issued, effective and not appealed by May 1, 2018,

	this will allow for one full winter season and one full summer season plus three months to prepare the initial report.
Response	Because the permit was not issued by May 1, 2018, the deadline will continue to be fifteen months following the permit effective date.
13	Page 22, Section E.5., Actions to Reduce Mercury Loading, General - We recommend striking this section, as significant actions are already underway to reduce the mercury loading, such that the listed actions are essentially overcome by events. Y-12 has recently broken ground on the new MTF which is designed to reduce the concentrations of mercury in East Fork Poplar Creek (EFPC). This facility, at an estimated cost of $250,000,000, is being constructed in advance of the demolition of several former production buildings which are upstream of the MTF. The MTF is designed to initially reduce mercury concentrations in EFPC to 200 µg/L with an ultimate goal of 51 µg/L. The actions in this section of the permit are focused on the removal of nanogram quantities of mercury which is exactly the goal of the MTF. Therefore, it is recommended that the development of *a plan of action to reduce adverse impact on water quality* not be required in this permit as these plans are regularly generated by DOE-EM as part of the CERCLA clean-up mission. While we recommend deleting Section E.5. in its entirety, we also have these comments on the subsections to E.5: Item 1) – Recommend removal of this requirement. Y-12 currently uses liquid ammonium bi sulfite and solid sodium bisulfite tablets to dechlorinate once-through cooling and other potable water. This is an industry accepted technique for dechlorination and has been used effectively for many years at Y-12. Item 2) - Recommend removal of this requirement. The need to continue application of dechlorination chemicals to various outfalls is an ongoing process. The feed of ammonium bisulfite to this outfall is currently turned off due to the absence of once-thorough cooling water discharges in the drainage system above this outfall. However, there may be a need to resume once-through cooling water discharges in the future at which time dechlorination will need to resume. Both chlorine and ammonia are listed as limited parameters in the appropriate table on page 9. Item 3) – Recommend removal of this item. This is deemed to be an operational issue related to the MTF and will have no effect on the environment. Item 4) – Recommend removal of this item. The Updated Water Balance will be developed and maintained as required in Section E.2. Updated Water Balance. Item 5) – Recommend removal of this item. If TDEC wishes to have discussions with NNSA and DOE-EM to better understand the relationship, please communicate this to the NNSA. This requirement is considered to be inappropriate for inclusion in an NPDES permit. Item 6) – Recommend removal of this item. Y-12 cannot be held responsible for the actions taken by the City of Oak Ridge to ensure their potable water distribution system meets all requirements as defined by the TDEC. Item 7) – Recommend removal of this item. The above activities are recommended to not be performed; therefore, a *written report* will not be available for submittal. Item 8) – Recommend removal of this item. There will be no initial report for which to provide an *annual update report.*

Response	The section in question has been removed from the permit. Part III.J addresses the dechlorinating of wastewater.
14	Page 22, Section E. 7. Submission of Annual Stormwater Report on January 31 - Recommend removal of this item. This action is currently being performed as a requirement of the current NPDES permit. The due date for this report is addressed in the appropriate section of the Stormwater Pollution Prevention Plan.
Response	The notation can be removed from this section due to the requirement being included Part IV.III. It should be noted that the final permit will have a table with all of the narrative reporting deadlines.
15	Page 22, Section E.8. Submission of Annual BMAP Report on January 31 – Recommend removal of this item. This action is currently being performed as a requirement of the current NPDES permit. The due date for this report is addressed in the appropriate section of the Biological Monitoring and Abatement Program (BMAP) and would be included as an annual attachment to the July DMR.
Response	The notation can be removed from this section due to the requirement being included Part III.G. It should be noted that the final permit will have a table with all of the narrative reporting deadlines.
16	Page 28, Section D.1. Liabilities - This language is overly broad and does not recognize that DOE can only pay fines, penalties, and damages to the extent that it is established that sovereign immunity has been waived.
Response	This provision does not create any legal liability that does not otherwise exist, but rather provides that the permit is not an exemption to liability, and will be retained. Moreover, Executive Order 12088 was issued on October 13, 1978 to ensure that federal agencies would comply with federal, state, and local pollution control requirements. Concerning fines, penalties, and damages the Resource Conservation and Recovery Act (Subtitle C/Hazardous Waste, Subtitle D/Solid Waste, and Subtitle I/Underground Storage Tanks), the Safe Drinking Water Act, and the Clean Air Act confer penalty or order authority upon EPA against federal facilities. The Clean Water Act, the Toxic Substances Control Act, the Federal Insecticide, Fungicide and Rodenticide Act, and the Emergency Planning and Community Right-to-Know Act do not confer penalty or order authority upon EPA against federal facilities. Details for the enforcement process for federal facilities can be located and reviewed at the following link: https://www.epa.gov/enforcement/overview-enforcement-process-federal-facilities Section 313 of the Clean Water Act allows the President to make annual exemptions to the Clean Water Act in the interest of the United States. The Clean Water Act states the following: *The President may exempt any effluent source of any department, agency, or instrumentality in the executive branch from compliance with any such a requirement if he determines it to be in the paramount interest of the United States to do so; except that no exemption may be granted from the requirements of section 306 or 307 of this Act. No such exemptions shall be granted due to lack of appropriation unless the President shall have specifically requested such appropriation as a part of the budgetary process and the Congress shall have failed to make available such requested appropriation. Any exemption shall be for a period not in excess of one year, but additional exemptions may be granted for periods of not to exceed one year upon the President's making a new determination. The President shall report each January to the Congress all exemptions from the requirements of this section granted during the preceding calendar year, together with his reason for granting such exemption.*

	The activities that are conducted under the NPDES permit do not grant the facility the authority to discharge wastewater in a manner which can harm the health and well-being of human beings under the other environmental legislative acts which do allow for penalties against the facility.
17	Page 33, Section E. Biomonitoring Requirements, Chronic, last paragraph – Recommend removal of the second sentence. Electronic submittal of all reports as *an attachment to NetDMR submittals* should be sufficient toward providing required information to the TDEC.
Response	The second sentence will be removed from the final permit.
18	Page 34, Section F, 1st paragraph, 2nd sentence - Recommend deletion of the words "and any additional monitoring specified by the Division." The Atomic Energy Act (AEA) preempts state and local regulation of radioactive materials, and grants the authority to regulate DOE-owned radioactive materials exclusively to the DOE. Further, with respect to materials covered by the AEA, Congress has not waived the sovereign immunity of DOE. As a result, DOE is self-regulating in matters related to radiological releases and issued DOE Order 458.1 , *Radiation Protection of the Public and the Environment,* to establish the requirements for these releases. Information in the RMP is provided to the State as a matter of comity only and should not be viewed as a permit requirement subject to fines and penalties.
Response	The division agrees that the radiation emitted from the various elements in the wastewater is regulated under DOE Order 458.1. However, the division retains regulatory authority relative to the element emitting the radiation. Should the division have creditable scientific information relative to the toxicity of the element as it relates to the recreational and fish/aquatic life designated uses, it retains the right to incorporate additional permit requirements.
19	Page 34, Section F, 2nd paragraph - Recommend removal of 2nd sentence, because it could be interpreted to mean that the Division intends to regulate the radiological monitoring plan. The Atomic Energy Act (AEA) preempts state and local regulation of radioactive materials, and grants the authority to regulate DOE-owned radioactive materials exclusively to the DOE. Further, with respect to materials covered by the AEA, Congress has not waived the sovereign immunity of DOE. As a result, DOE is self-regulating in matters related to radiological releases and issued DOE Order 458.1 , *Radiation Protection of the Public and the Environment,* to establish the requirements for these releases. Information in the RMP is provided to the State as a matter of comity only and should not be viewed as a permit requirement subject to fines and penalties.
Response	The division agrees that the radiation emitted from the various elements in the wastewater is regulated under DOE Order 458.1. However, the division retains regulatory authority relative the element emitting the radiation. Should the division have creditable scientific information relative to the toxicity of the element as it relates to the recreational and fish/aquatic life designated uses, it retains the right to incorporate additional permit requirements.
20	Page 35, Section G, Biological Monitoring and Abatement Program (BMAP), Reporting - Recommend removal of last sentence. Electronic submittal of all reports as *an attachment to NetDMR submittals* should be sufficient toward providing required information to TDEC.
Response	The last sentence will be removed from the final permit.
21	Page 3 8, Monitoring Requirements for Outfall S06 - There are two footnote indicators in the associated table(* & **);however, there are no associated footnotes below the table. Recommend either the footnote indicators be removed or the associated footnotes be entered below the table.
Response	The "*" and "**" will be removed from the final permit.
22	Page 39, Section III Reporting, last sentence -Recommend the sentence be replaced with the following. *The report shall be submitted to the TDEC as an attachment to the monthly*

	submittal to NetDMR no later than January 28 for the preceding calendar year. Electronic submittal of all reports as an attachment to NetDMR submittals should be sufficient toward providing required information to the TDEC.
Response	The final permit will contain the suggested sentence.

Comment Letter #2
Environmental Protection Agency

On November 15, 2017, we received an electronic copy of the draft National Pollutant Discharge Elimination System (NPDES) permit (TN0002968) for the Department of Energy's (DOE) Y- 12 facility at Oak Ridge National Security Complex. The current NPDES permit was issued on October 31, 2011, expired on November 30, 2016, and is being administratively continued. The Y -12 facility is a national defense facility, a manufacturing and development facility, a repository for the supply of enriched uranium, and supports the nation's nuclear deterrent through nuclear weapons stockpile stewardship and management.

The draft permit addresses several point sources discharges consisting of process waste waters (i.e. steam condensate, boiler blowdown. cooling tower blowdown), treated ground water and industrial stormwater discharges to East Fork Poplar Creek. Domestic waste water is discharged to the City of Oak Ridge's Wastewater Treatment Plant. Some treated ground water and industrial stormwater is also discharged to McCoy Branch, Bear Creek. and tributaries to the Clinch River. The East Fork of Poplar Creek is listed for mercury, Polychlorinated Biphenyls (PCB), Escherichia coli (*E. coli),* loss of biological integrity due to siltation. nitrates. nitrites, and total phosphorus on State's final 2014 Clean Water Act (CWA) Section 303d list of impaired waters, and Bear Creek is listed for nitrates, nitrites, and *E. coli.* The applicable technology-based effluent guideline is 40 Code of Federal Regulations Part 433. Miscellaneous Fabricated Metal Products, Subpart A- Metal Finishing, and this regulation does not include guideline limits for mercury. The applicable water quality-based effluent limit for mercury is 51 nanograms/liter (ng/1). Radioactive materials from DOE's operations which are regulated under the Atomic Energy Act of 1954. as amended and included in the point source discharges however are not included as 'pollutants' in 40 Code of Federal Regulations (CFR) Part 122.2 *Definitions* and therefore limits have not been established in the permit. Because of the legacy waste and contaminant releases at the Y-12 facility and other DOE facilities (Oak Ridge National Laboratory and East Tennessee Technology Park, formerly K-15 Gaseous Diffusion Plant), the entire Oak Ridge Reservation (ORR) was placed on the US Environmental Protection Agency's (EPA) National Priorities List for Federal Facilities established under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) for releases of hazardous substances including PCBs and mercury, and for releases of radionuclides. Mercury contamination at Y-12 enters surface waters from direct erosion of contaminated soil, migration of dissolved mercury through stormwater drains and outfalls, and through shallow groundwater resurfacing. The cleanup of the site under CERCLA is on-going, and the most recent amendment to the CERCLA Record of Decision (AROD) (Amendment to the Record of Decision for Phase I Interim Source Control Actions in the Upper East Fork Poplar Creek Characterization Area, Oak Ridge, Tennessee, Water Treatment at Outfall 200, dated February 24, 2016) requires the DOE to design and construct a new on-site wastewater treatment plant (WWTP) at Outfall 200 (hereinafter Mercury Treatment Facility) to capture CERCLA wastewaters consisting of stormwater and groundwater recharge and reduce effluent mercury levels to less than or equal to 51 ng/1 from proposed Outfall 200. This limit established in the AROD was identified as an Applicable or Relevant and Appropriate Regulations (ARAR) for which compliance under the AROD and the ORR Federal Facility Agreement is required once the WWTP is operational. The new WWTP will be constructed using a modular design to accommodate future modifications, if needed. Page R-34 of the NPDES permit fact sheet dated November 16, 2017, mentions that the construction of the new WWTP will be completed in the 2020- 2021 time frame. However, DOE predicts complete remediation of mercury contamination in sediments/soil and groundwater and stormwater will not be realized until 2039 (ref: Revision I to DOE's Strategic Plan for Mercury

	Remediation, document no. DOE/ OROl-2605, dated September 2017). CERCLA Section 121 (e) permit exemption applies to a "remedial action conducted entirely onsite, where such remedial action is selected and carried out in compliance" with CERCLA. In EPA's view the CERCLA Section 121 (e)(1) waiver of permitting requirements for on-site CERCLA response action does not preempt CWA permitting requirements for: 1) operating facilities with NPDES-regulated discharges; 2) for waste streams in which CERCLA waste is commingled with NPDES-regulated discharge, or 3) in situations where a CERCLA response action sends waste to an existing NPDES permitted outfall for treatment and/or discharge. The CERCLA permit exemption thus does not apply to point source releases of CWA pollutants that are not being discharged pursuant to a selected remedial action. NPDES permitting is therefore required for point source discharges of legacy contaminants prior to the operation of the Mercury Treatment Facility (part of the selected remedial action), and NPDES permitted discharges must meet all requirements set forth in the CWA, including the requirement that the permit include effluent limits that arc stringent enough to meet applicable water quality standards, as required by section 301(b)(1)(c) of the CWA and 40 CFR 122 .44(d) . With respect to the permit under review, Outfall 200 will discharge a combination of process wastewater, cooling water, groundwater, steam condensate and industrial stormwater. Because the Mercury Treatment Facility that has been selected as a remedial action for treating legacy mercury contamination at Outfall 200 will not be constructed and operating until 2020-21, the permit exemption for CERCLA wastes will not apply to this discharge until late in the permit term for the proposed permit. Therefore, a water quality based effluent limit for mercury [Recreation Use- Organisms only criteria (51 ng/1)] is required for Outfall 200 that is consistent with Tennessee's water quality standards and the CWA. We understand that it will take considerable amount of time for the mercury treatment facility to be constructed, become operational, and achieve the mercury water quality criteria-based effluent limit. Accordingly, a compliance schedule consistent with 40 CFR § 122.47, which reflects the amount of time anticipated to be necessary to achieve the water quality standard, would be appropriate in the permit. The EPA notes that when the Mercury Treatment Facility is operating and the treated mercury discharge occurs pursuant to the CERCLA remedial action, the permit exemption will apply, and the CERCLA discharges through the Mercury Treatment Facility will cease to be regulated by this permit. However, pursuant to CERCLA and the terms of the AROD, the remedial action must attain ARARs including CW NTDEC regulations identified in the decision document including meeting applicable Tennessee water quality criteria-based effluent limits. Based on our review, the draft permit lacks a required water-quality-based effluent for mercury of 51 ng/1 as a daily maximum value for discharges to the East Fork of Poplar Creek. The limit can be accompanied by a compliance schedule for mercury (with appropriate milestones), consistent with 40 CFR § 122.47 which reflect the amount of time necessary to build and commence operation of the Mercury Treatment facility as part of the CERCLA remedy (i.e., operation of the new WWTP) to meet water quality standards. Lastly, the fact sheet states that the relocated Outfall 200 will consist of treated process wastewater, cooling water, groundwater, steam condensate, and stormwater, and it appears that the NPDES discharge that will continue to be permitted after the CERCLA remedy is implemented will be combined with the treated CERCLA wastes for discharge. In this scenario, it will be difficult to separately monitor the NPDES discharge and determine whether the NPDES discharge is meeting permit requirements when the NPDES discharge is diluted heavily with CERCLA waste streams. In order to accurately measure NPDES permit compliance, we recommend that appropriate internal outfalls be established (e.g., identified as 200A, 200B, etc.) to measure relevant parameters and assess compliance with NPDES limits prior to combination with the CERCLA waste stream. Monitoring at the internal point(s) could commence at any point during the permit term prior to the implementation of the CERCLA remedy so that NPDES compliance can be assessed following the removal of CERCLA wastes from permit applicability. Applicable effluent guideline parameters and total mercury should be monitored daily by grab sample. Once the CERCLA remedy is fully implemented (i.e., the Mercury Treatment Facility is operational). monitoring for the CERCLA-only waste water streams from Outfall 200 can be addressed through the CERCLA action.
Response	The Department concurs that a final mercury limitation and a schedule of compliance is both appropriate and legally-compelled until the selected remedy for a water treatment

system is carried out following the construction and the commencement of operation of the system. The permit adds a new Outfall MTF to reflect the anticipated construction of the new outfall associated with the mercury treatment facility, which will discharge at a different location than Outfall 200.

The permit imposes a final mercury limit of 0.051 µg/L. This limit is derived from Tennessee's recreational use criterion established in Rule 0400-40-03-.03(4)(j), which was adopted as an ARAR in the CERCLA ROD. Once the CERCLA remedy has been implemented, then the regulation of mercury from the MTF will be removed from NPDES and will revert to the CERCLA ROD. The Department notes that the CERCLA ROD anticipates the possibility of an ARAR waiver for this mercury limit in the event that DOE installs this treatment facility to control mercury, but despite proper operation and maintenance, is unable to achieve the effluent limitation.

In accordance with Rule 0400-40-03-.05(3), the permit establishes a schedule of compliance to allow a reasonable opportunity to comply with water quality standards for mercury. Compliance is required as soon as possible, with a final compliance date of July 1, 2025. Due to the large scope and complexity of the project, this schedule of compliance extends for more than one year, and therefore the permit requires submission of annual progress reports.

The construction of mercury treatment facility began prior to the issuance of this permit and is expected to continue beyond this permit period (2020-2023). The contract to construct the facility was awarded in December 2018 to APTIM-North Wind Construction JV, LLC. The December 4, 2018 DOE press release indicated that the goals of the contract were the following:

1. Safely construct the Outfall 200 Mercury Treatment Facility Headworks, Transfer Pipeline, and Treatment Plant;
2. Conduct systems testing; and
3. Turnover facility management responsibilities to an operating contractor.

An email dated December 18, 2019 from the Joy Sager in the Oak Ridge Environmental Management Project Management Branch provided the overall general construction schedule. This schedule is consistent with the milestones established under the CERCLA Federal Facilities Agreement Schedule J.

	Time Period	Description of Construction/Startup Activities
1	2019	Demolition/excavation
2	2020	Excavation/foundation installation/procurement
3	2021	Procurement/foundation installation/building installation/equipment installation
4	2022	Equipment installation/system acceptance testing
5	2023	Equipment installation/system acceptance testing
6	2024	Commissioning/startup
7	2025	Turnover to operations/project completion

Comment Letter #3 Department of Energy Oak Ridge Office of Environmental Management	
Comment Number	Comment
1	DOE appreciates the substantial changes that the 2017 draft of NPDES Permit No. TN0002968 reflects in more clearly separating remediation efforts conducted under the authority of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and compliance actions conducted under the authority of this permit. In the unlikely event that there remains confusion, and in the interest of preserving DOE's appeal rights as understood from Tenn. Comp. R. & Regs. R. 0400-40-05-.12, DOE submits the following comments for this draft permit's record. DOE continues to hold the position that the State of Tennessee, acting through the Tennessee Department of Environment and Conservation (TDEC), is preempted by Federal statute from exercising authority over a duly selected and executed CERCLA remedial activity by any permit, particularly this permit issued under the Tennessee Water Quality Control Act. As the permit discusses, the actions to reduce legacy contamination entering waters of the State of Tennessee are being carried out consistent with agreed upon Federal Facility Agreement (FFA) schedule that is the result of a dispute resolution agreement discussed further below. See42 U.S.C. 9621 (e), which states: "Permits and enforcement. (1) No Federal, State, or local permit shall be required for the portion of any removal or remedial action conducted entirely onsite, where such remedial action is selected and carried out in compliance with this section." Further, Executive Order 12580 expressly delegates CERCLA schedule decision making in "Section 3. Cleanup Schedules: (a) The functions vested in the President by Sections 116(a) and the first two sentences of 105(d) of [CERCLA] ... are delegated to the heads of Executive departments and agencies with respect to facilities under the jurisdiction, custody or control of those departments and agencies." Interim achievement of reducing legacy contaminants in the receiving water bodies is regulated through the CERCLA compliance schedules that are captured in FFA approved documents. The 1999 Consent Order issued by the Tennessee Water Quality Control Board, which recognizes that effluent limits and schedules for legacy contamination are best pursued through CERCLA removal and remedial authority, seems consistent with the terms and conditions of this draft permit. However, DOE would recommend that the rationale section of this draft permit be modified to reflect a clear division between CERCLA and TWQCA authority, and a demonstrable indication to the permit holder and the public regarding how the State of Tennessee intends to approach remediation of legacy contaminants that can potentially affect waters of the State of Tennessee. Further, DOE generally responds to the comment letter received by the State of Tennessee on December 14, 2017, from the Environmental Protection Agency (EPA) regarding this permit (Attachment #1) with the following. The State of Tennessee, EPA and DOE executed a Dispute Resolution Agreement (Attachment #2) that resolved the CERCLA FFA dispute regarding the construction and operation of the OF200 Mercury Treatment Facility (MTF). In that dispute resolution agreement, all three parties agreed: that the regulation of mercury as a legacy pollutant in East Fork Poplar Creek would be implemented through CERCLA decision documents; that 51 ng/L would be the applicable or relevant and appropriate requirement (ARAR) for total mercury in the receiving water body stream; that if after two years of operation of the MTF, the discharge from MTF fails to meet the 51 ng/L ARAR then EPA, TDEC and DOE will collaborate on the selection and implementation of following CERCLA actions; and that if the parties agree that further MTF modifications are unwarranted, and that the 51 ng/L ARAR is not reasonable to achieve, then TDEC and EPA agree to waive compliance with this ARAR. EPA seems to indicate a withdrawal from this agreement by stating that the NPDES permit

	must impose a 51 ng/L discharge criteria in order to be in compliance with Clean Water Act requirements until the construction of MTF has been completed. DOE would remind EPA that MTF is a selected remedy pursuant to the interim Record of Decision for Phase I Interim Source Control Actions in the Upper East Fork of Poplar Creek Characterization Area, and it is being carried out consistent with CERCLA § 121(e) through an agreed upon schedule consistent with CERCLA § 120. Operation of a selected remedy is not a CERCLA requirement for the statutory exemption from permits for CERCLA activities; CERCLA requires that remedies are selected and carried out in compliance with a schedule that has been developed and agreed upon consistent with CERCIA § 120 (for the Oak Ridge NPL site, that schedule is found in the FFA for the Oak Ridge Reservation). DOE agrees with and supports the position identified and presented in this permit and advocates for TDEC to maintain the current permit conditions regarding legacy mercury contamination into the covered water body.
Response	See response to EPA's comment concerning mercury.
2	E. Schedule of Compliance, #2 - Pg 21 of 38: "NNSA will assist DOE-EM to define any loss in stream resource value upon EFPC diversion; will provide data obtained from the Updated Water Balance, as appropriate, regarding streamflow, NNSA outfalls and discharges, and biological data from the BMAP program; and will assist DOE-EM in determination if any net loss of resource value exists and in developing substantive action for mitigation." DOE would request clarification on several questions that arise from reading this language in the draft. a. What assistance is anticipated from NNSA and what actions this relates to? b. Does this relate to specific permit conditions relative to the CERCLA actions that are planned for the upper reaches of East Fork Poplar Creek? c. Is this related to natural resource damages associated with any net resource value loss associated with the legacy contamination and their remediation? d. Is this section related to alteration of the physical properties of a water of the State of Tennessee? e. Could you specify the specific portion of EFPC this permit condition relates to? f. Finally, is it a permit condition that NNSA assist DOE in developing CERCLA mitigation actions relative to anticipated plans?
Response	The section in question has been removed from the permit. The new location of Outfall 200 will be designated as Outfall MTF. The Department and DOE will address any loss of resource values resulting from the diversion of contaminated wastewater to the MTF through the ARAP program directly, or through implementation of an ARAR based on these requirements. Although compensatory mitigation may be required, that requirement is outside of the scope of NPDES regulation.
3	E.5 Schedule of Compliance, Pg. 22: DOE agrees substantively with NNSA'S recommendations regarding this section, and includes the following section restated with slight distinctions: Page22, Section E.5., Actions to Reduce Mercury Loading, General - We recommend striking this section, as significant actions are already underway to reduce the mercury loading, such that the listed actions are essentially overcome by events. DOE has recently broken ground on the new MTF which is designed to reduce the concentrations of mercury in East Fork Poplar Creek (EFPC), and is being constructed in advance of the demolition and remediation of several operable units which are believed to contribute to the mercury loading of EFPC. The MTF is designed to initially reduce mercury concentrations in EFPC to 200 ng/L with an ultimate goal of 51 ng/L. The actions in this section of the permit are focused on the removal of nanogram quantities of mercury which is exactly the goal of the MTF. Therefore, it is recommended that the development of a

	plan of action to reduce adverse impact on water quality not be required in this permit as these plans are regularly generated by DOE as part of the CERCLA clean-up mission.
Response	This requirement has been deleted based on the revised CERCLA plan for treating legacy mercury. However, the department notes that the toxicity limit remains an enforceable provision of the permit, and that DOE violated this limit in 2018 through a large release of mercury related to CERCLA work. Regardless of the long-term plan to treat mercury wastes, the Department expects DOE to strictly comply with this NPDES permit limitation moving forward.
4	Part III. I. Limits for Mercury Treatment Units Consistent with the General Comments submitted above, DOE supports inclusion of this section of the permit as written.
Response	Comment noted for the record.
5	II. Permit Status – Rationale R-2 of R-70 DOE would request that future information updates related to CERCLA remedial actions be requested of DOE, not NNSA. DOE appreciates that the State encouraged DOE engagement in the permitting development and drafting at an early stage in the process, and would appreciate that the State continue to seek DOE's engagement in this permit. DOE is committed to providing appropriate responses to permit information requests in a timely manner. DOE does not disagree with the provided characterizations of the current status of any of these CERCLA remedial activities. Specifically, the draft Rationale contains the following language in the last paragraph: "This renewed permit establishes requirements necessary for DOE to attain compliance with TN water quality criteria through a combined effort of CERCLA (administered by DOE/EM) and Clean Water Act actions (administered by NNSA). These requirements are described in this Rationale and in the Permit, and are considered adequate for resolution of the 2011 appeal." DOE would request that the language be clarified, consistent with the General Comment above; DOE would suggest the following changes to effect that clarification: This renewed permit describes actions intended for DOE/NNSA to attain and achieve with TN water quality criteria through a combined effort of CERCLA (administered by DOE/EM) and Clean Water Act actions (administered by NNSA). These requirements actions are described in this Rationale and in the permit, and the State recommends that this Rationale describe actions that adequately resolve the 2011 appeal.
Response	No changes will be made to the rationale, which is an explanation of the draft permit. This comment is documented in this Notice of Determination for the final permit.
6	Rationale - R-9 of R-70: For clarification, the CERCLA Record of Decision (ROD) covering the Outfall 200 Mercury Treatment Facility is covered in an amendment (DOE/OR/01-1697&D2) Specifically at page 14 of the ROD amendment, Remedial Action Objectives for this CERCLA remedial action are described as follows: "Collected wastewater will be treated to achieve reductions in mercury concentrations to 51 ng/L total mercury in the treated effluent for discharge to UEFPC. Treated effluent from the proposed water treatment facility will be discharged in compliance with ARARs and at levels that are protective of the receiving water. Discharges from Outfall 200 that exceed the facility's treatment capacity and stormwater storage capacity will bypass the facility without treatment. In order to limit the total mercury flux to UEFPC from Outfall 200, mercury concentrations in UEFPC surface water, including any water bypassing the treatment facility, will be limited to a daily maximum concentration of 2,000 ng/L of total mercury and an annual rolling flux of 1 kg/year total mercury. To prevent acute toxicity to fish and aquatic life, mercury concentrations in UEFPC stream-flow, including any bypass water, will be limited not to exceed 1,400 ng/L dissolved mercury."

	This presents a distinction from the language in the draft permit rationale section. In the interest of clarity, and consistent with the General Comment, please see the suggested changes (in red) below: Outfall 200 Mercury Treatment Facility (MTF) - -Proposed During this permit term, DOE plans to construct a stormwater treatment facility, known as the MTF as a CERCLA action. See location map below. As part of a dispute resolution with EPA and TDEC, DOE is designing the MTF: • to treat stormwater up to 3,000 gallons per minute and includes a 2-million gallon storage tank to collect stormwater. • to capture first flush during peak flow conditions up to 40,000 gallons per minute and treat it after storm flow subsides. • To convey captured stormwater to the treatment facility located approx. 3,500-3,600 feet downstream of Outfall 200. • For a treated effluent meeting the TN WQC of 51 ng/l using physical-chemical precipitation, clarification, and media filtration. Actual system performance will be evaluated following facility construction and two years of operation. If the actual performance does not attain this target level (51 ng/L in the treated effluent), then the State will work with the other FFA parties to select and implement appropriate follow-on actions. • To attain a daily maximum concentration of 2,000 ng/L*B-ug/l total mercury (and an annual rolling flux of 1 kg/year) for UEFPC. • To attain an instream concentration of 1.4 ng/l. • To discharge treated effluent back into UEFPC.
Response	No changes will be made to the rationale, which is an explanation of the draft permit. This comment is documented in this Notice of Determination for the final permit.
7	DOE would like to clarify an understanding that NPDES Permit TN0002968 applies to activities, operations, buildings, structures, facilities or installations from which there is or may be the discharge of pollutants into the waters of the State of Tennessee. The Rationale describes at pages 11 and 12 the nature and sources of mercury loading into the EFPC. While DOE appreciates the complicated history that has led to mercury loading into the EFPC, it seems unclear why a permit associated with regulation of specific activities conducted at the Y-12 National Security Complex would also describe various non-source contributors to the loading of mercury in EFPC. DOE would recommend that this section of the Rationale be removed from the permit. If TDEC disagrees with that recommendation, DOE would re-emphasize the General Comment and ask that the section be modified to reflect the applicable sources of mercury contamination for this permit.
Response	No changes will be made to the rationale, which is an explanation of the draft permit. This comment is documented in this Notice of Determination for the final permit.
8	The EFPC is described as "listed in the draft State of TN 2016 303(d) List as needing additional controls for PCBs, mercury, Pathogens, Sedimentation/ Siltation, Nutrients, and alteration of stream-side or littoral vegetative cover near DOE's Oak Ridge facilities." Portions of EFPC are covered by CERCLA decision documents that include alterations to stream-side and littoral vegetative covers. Please specify which portion of DOE's Oak Ridge facilities this phrase is describing.
Response	The 303(d) list simply states the cause of the impairment and the source. The list does not delineate the organization that is required to conduct cleanup activities at on the reservation.